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MEDICAL AND SURGICAL
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Kappa Lambda Association

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UNITED STATES

NON DOCTIOR, SED MELIORE IMBUTUS DOCTRINA.

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1828.

Eastern District of Pennsylvania, to wit:

BE IT REMEMBERED, that on the twenty-ninth day of March, in the fifty-second year of the independence of the United States of America, A.D. 1828, Hugh L. Hodge, Franklin Bache, Charles D. Meigs, Benjamin H. Coates, and René La Roche, of the said district, have deposited in this office the title of a book, the right whereof they claim as proprietors, in the words following, to wit:

"*The North American Medical and Surgical Journal. Published by the Kappa Lambda Association of the United States. Non doctior, sed meliore imbutus doctrina. Vol. V.*"

In conformity to the act of the Congress of the United States, entitled, "An act for the encouragement of learning, by securing the copies of maps, charts, and books to the authors and proprietors of such copies during the times therein mentioned;" and also to the act, entitled, "An act supplementary to an act, entitled, 'An act for the encouragement of learning, by securing the copies of maps, charts, and books, to the authors and proprietors of such copies during the times therein mentioned,' and extending the benefits thereof to the arts of designing, engraving, and etching historical and other prints."

D. CALDWELL,
Clerk of the Eastern District of Pennsylvania.

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THE

NORTH AMERICAN

Medical and Surgical Journal.

JANUARY, 1828.

ORIGINAL COMMUNICATIONS.

ARTICLE I.—*On the Mechanism of Preternatural Joints, and on the Means of Cure.* By THOMAS T. HEWSON, M. D. Read before the College of Physicians, October 2, 1827.

IN every instance of fracture, the solution of continuity in the bone is accompanied by more or less laceration of the contiguous soft parts. As a necessary consequence of the rupture of the vessels, blood is effused, producing the swelling and ecchymosis observable on these occasions. When the injury does not extend to the absolute extinction of life in the part, a series of phenomena connected with the process of restoration is soon established; and although the operations, by which nature is enabled to restore the integrity of parts that have been injured, are in a great measure concealed, enough, however, has been revealed, by observation and experiment, to excite our interest and attention.

The first circumstance that has been noticed, is the enlargement of the capillaries; and with this increase of diameter are associated new and important powers, on which essentially depends the re-union of parts whose connexion has been dissolved. These vessels pour out a portion of their contents, which immediately, or very soon, assumes the concrete form; resembling, in all its sensible properties, the buffy coat so often observed on the surface of blood that has been drawn from the body, and consisting of fibrine, in which is entangled a still larger proportion of serum, or liquid albumen. The cellular texture loses its power of being separated into lamellæ, and the soft parts are united, in a close, firm manner, round the place of fracture. These phenomena commence at an early period: they have been observed even as early as the sixth hour, and are generally completed within the first forty-eight hours, when the parts are in the state of greatest tumefaction. After this period, the blood which had been effused is gradually absorbed, and the colour which it had imparted proportionably disappears. This change takes place more or less rapidly, according to the quantity of blood effused, and to the activity of the absorbents. In a case of fractured tibia lately under my care, the discoloration was discernible in the injured limb until the close of the sixth week. But, under ordinary circumstances, it vanishes in a much shorter time. By the presence of the fibrine, which is now perfectly solid, the cellular texture acquires a degree of induration, that extends between the fasciculi of muscular fibres. In this state, neither the individual organization, nor even the nature of the several parts in the immediate vicinity of the fracture, can be distinguished. If examined in the field of a magnifying glass, the parts appear highly vascular, and the interstices observed in this net-work of vessels give to the part a mottled appearance; a circumstance, that, on many occasions, has been distinctly visible to the naked eye.

Occasionally, some of the muscular fibres are lacerated, and get entangled between the fractured extremities of the bones. Involved in coagulated blood, bruised and deprived of their due supplies from the circulation, these portions of the muscles become absorbed; and eventually not the slightest vestige can be discovered. The blood poured out in consequence of the rupture of the vessels, insinuates itself into the interstices between the fasciculi of muscular fibres; and the vessels distributed for the nutriment of these parts, are enlarged and greatly distended with blood. The muscles, especially those which pass immediately over the fracture, being surrounded by the indurated cellular texture, often acquire, though seldom before the tenth day, a remarkable degree of consistence, and a whitish-gray colour. This is to be ascribed to the yet unorganized fibrine, which we have stated to be poured out at an early period after the injury has been inflicted. They retain this appearance as long as the indurated condition of the cellular texture continues. The parts thus become stiff; and, the muscles being rendered incapable of violent contractions, the fragments are less likely to be disturbed from the position in which they have been placed; whence may be drawn the practical advantage, of adjusting the limb and bringing the fragments into exact apposition, at an early period and before the fibrine is secreted.

Those who have experimented on the subject, have observed, that, from the fourth day, some of the muscles which passed over or were inserted near to the fracture, had become paler and *denser* than those that were more remote; that, on the sixth day, the muscular fibres nearest to the fracture, resembled very much, in colour and consistence, the indurated cellular membrane, with which they were in fact almost confounded; and, lastly, that a very sensible alteration in this condition of the parts was discernible between the tenth and seventeenth days.

The periosteum, which closely invests the bones, necessarily gives way at the time when these are broken; and the rupture of this membrane corresponds with the place of fracture. If the *extremities* of the fractured bones ride or overlap one another, the periosteum is bruised where these are in contact: the injury which the membrane thus sustains, occasions its destruction through the whole extent of the surface where the bones overlap. According to BRESCHET, this denudation of the bones is often effected in a day, or even a few hours. The divided edges of the periosteum contract adhesions with the surrounding soft parts; and, in the vicinity of the fracture, this membrane soon acquires a deeper colour, and may be very easily separated from the bone where there is no tendinous or aponeurotic insertion.

The periosteum now acquires a high degree of vascularity, becomes swollen and indurated; and in the neighbourhood of the fracture the thickness equals nearly two-thirds of a line. In this state it adheres to the muscles and other soft parts, by means of the cellular membrane, thickened and loaded with fibrine, from which it can with difficulty be distinguished. It has likewise formed very firm adhesions, connected with the fractured extremities; and is even continued into the cartilaginous inequalities surrounding these extremities, and projecting beyond their level. In separating the periosteum, we tear away the substance interposed between the extremities of the fracture. It is this substance which we shall have occasion more fully to notice, as forming the nidus for the future callus.

The membrane secreting and constituting the involucrum of the marrow is likewise ruptured with the bone, and the blood is effused from the numerous vessels distributed through its substance. This effused blood, if considerable, forms a coagulum, which is continuous with the medulla. The softness of this substance, and the violence inflicted at the time of the injury, afford a ready explanation of the ecchymosis observed in the texture of the marrow, during the early periods succeeding the fracture. This transition from the natural state, is marked by little spots of extravasated blood, that become more sparse in proportion as the distance from the fracture increases.

From the time when the fracture is inflicted, until the fourth day, the colour of the marrow is of a brownish purple hue, owing to the presence of the extravasated blood: it then changes to a brighter red, as the extravasated blood is absorbed, and the numerous vessels have acquired a greater capacity, and now carry red blood, in consequence of the inflammation which has been established.

The medullary canal is diminished in its calibre, by the presence of a reddish, fleshy substance, continuous with the bone, denser, and more firmly adhering to the edges of the fracture: in the further progress this substance becomes cartilaginous, and then osseous.

At first, the surfaces of the fractured extremities have a slight covering of coagulated blood. On the second day, in addition to this substance, a ropy and slightly viscous matter may be observed, in very small quantity, extended over the surface of the fracture, and cementing them together. On the fourth day, this substance is accumulated in larger quantity, and exhibits unequivocal signs of organization. From the tenth to the fourteenth day, the reticular character of the substance interposed between the two surfaces of the fracture becomes more evident. It is stated to be more abundant, more consistent, more tenacious, though less red in colour, over the medullary canal.

The soft parts thus blended together, near the fracture, form a kind of knob or protuberance, in which the broken ends of the bones are confined, and, as it were, buried. This swelling or tumour is not, at first, distinctly limited, nor is it rendered so until the close of the third or the beginning of the fourth week, when a gradual absorption in the cellular texture takes place, proceeding from without inwards; and it is then confined to the fracture, constituting the tumour of the callus, and insulating the fracture. From this period it is no longer confounded with the surrounding parts: the muscles, however, are observed to retain their adhesions. Before the twentieth day, the muscles and their fasciæ, that pass directly over the fracture, are never separated from the callus by means of a properly organized cellular texture. The tendons are sometimes lodged, for a certain extent, in a kind of canal, which embraces them on every side, and in which they are capable of moving. In other instances, they run in grooves on the surface of the callus.

Breschet describes the callus as a solid mass, into the composition of which, independently of the osseous fragments, there enter two principal textures, distinguished by their colour and consistence. The one is exterior, more or less white, very firm, and closely resembling a fibrous or fibro-cartilaginous substance, without, however, presenting any red fibres, but in which can be readily distinguished parts purely cartilaginous. This substance, covering the fracture, and extending to a certain distance beyond it, generally exhibits, at this period, in the parts most remote from the fracture, the hardness and other characters of bone.

The second principal texture is described by him, as situated under the first or towards the centre of the tumour, is red, or approaching to a violet colour, according to the light in which it is viewed: it is soft and easily torn, spreading over the surface of each fragment, and so closely applied to the centre of each of these surfaces, that it is impossible to denude completely this part of the bone.

The substance which was noticed as occupying the medullary canal, gradually increases in quantity until the canal is entirely obliterated. In the further progress, this substance acquires the character and consistence of bone, after having passed rapidly through the cartilaginous state. It therefore varies in appearance, according to the period in which the examination is made

Sometimes it is extremely compact; and when the reticular or cancellated texture commences, it is seen most distinctly towards the distal extremity of the fracture. It is of a reddish colour, particularly when the cancellæ can be observed.

The ossification of the callus commences at the extremities, extends progressively towards the fracture, and finally pervades the whole tumour. This process commences about the fourth week; but the period when the callus is completely ossified is extremely variable.

The continual transition of the red intermediate substance into fibro-cartilaginous matter, and of this again into cartilage and bone, proceeds more or less rapidly, according to the constitution of the individual, and the peculiar circumstances of the case.

The diminution of the callus, as well as the ossification of its substances, appears earlier in the medullary canal than in other parts of the tumour: for the complete disappearance of the new osseous substance which had filled up the medullary cavity, and the restoration of that cavity to its full extent, are phenomena which occur long before there is any visible diminution of the callus.

As soon as the substance which causes the obliteration of the medullary canal has attained the consistence of bone, it becomes more or less cancellated. The cancellæ are at first very small; they subsequently enlarge, and coalesce, the partitions separating them being gradually absorbed, and the whole substance is converted into a complete bony network; which, however, soon disappears, and all traces of the ossification of the medullary canal vanish.

In that portion of the callus which is to constitute the more permanent bond of union, the cells are developed in proportion as the bony points unite to form the centres of ossification. And as these cells enlarge, and become less numerous, there is formed a compact osseous lamina, which increases in thickness with the gradual diminution of the tumour.

Through some defect or interruption in the process, it occasionally happens, that a perfect osseous union is not effected, and the bones admit of more or less motion, constituting what has been denominated a false or preternatural joint. In all the moveable articulations appertaining to the higher order of animals, we find the extremities of the bones possessed of a smooth, polished covering of cartilage, and the opposing surfaces lubricated with synovia, enclosed in a regular capsule. There are not wanting many writers of eminence, who have described, I believe, rather from speculation than from actual observation, these preternatural joints as possessing all the characters of the moveable articulations. But, in support of such doctrine, I know of no record of the parts having been critically examined, so as to demonstrate the fact. Mr. S. COOPER, in his Surgical Dictionary, a work replete with valuable information, relating to the pathology and treatment of fractures, states, that in the Hunterian Museum there is a preparation of the forearm, where the resemblance to the natural articulation is greater than what BOYER has seen in other situations. But this expression is very ambiguous, and does not convey the positive information which the subject requires. As far as I have had an opportunity of examining the parts, I have uniformly found a firm ligamentous substance, extending from the fractured surfaces, and constituting the bond of union. The case adduced by Mr. COOPER, on the authority of Mr. EARLE, does not invalidate this position: it merely affords evidence that the fragments were removed beyond the spheres of their mutual action, and that no kind of union took place. The case is too interesting not to be noticed here. He says, "I have seen a woman, under Sir JAMES EARLE, in the above hospital, (St. Bartholomew's) whose os brachii did not unite in the least, though it had been broken several months. Every attempt to move the bone occasioned excruciating torture. The woman died of some illness in the hospital; and, on dissecting the arm, the cause of the fracture not having united was found to arise from the upper sharp pointed extremity of the lower portion of the broken bone having been forcibly drawn up by the muscles and penetrated the substance of the biceps, in which it still remained." In Mundy's case, on whom I performed the operation as proposed by Mr. WHITE, of Manchester, the figure of the two portions of the os humeri might, on a superficial examination, have been considered as possessing a perfect resemblance to a natural joint. The seat of the fracture was just below the insertion of the deltoid muscle; the upper portion was formed into a single cone, lodged between two cones, projecting from the lower portion, corresponding to the origin of the brachiæus internus, which, arising by two slips has likewise received, not inaptly, the name of bicornis. These three cones, when deprived of the dense, ligamentous substance, by which they were cemented, presented a faint resemblance to a ball and socket; and in the separated state, might have imposed on those who did not critically examine the ends of the bone. In the majority of cases there has been found, extending from each fragment, a substance, in consistence and texture, resembling the cartilage interposed between the bodies of the vertebræ. This substance being flexible, the degree of motion observed between the pieces of bone is easily explained; and such structure is in perfect accord with the history given of the different stages of the process for the reunion of bones that have been broken, and perfectly consistent with the known operations of nature; whereas the doctrine of a complete resemblance of these false joints to the natural articulations would imply additional powers, and the production of new parts, of which we have no example. On this occasion I shall avail myself, in confirmation of these views, of the authority of Boyer, whose expressions on the mechanism of these joints are, "I have never found in their structure, any thing which could be compared with an articulation; neither capsular ligament, nor smooth cartilaginous surfaces. On the contrary, I have invariably found in the false joints of the thigh bone and humerus, which I have had an opportunity of dissecting, a fibrous, ligamentous substance, extending from one fragment to the other; and it is very probable that, with some modifications, it is the same with all the other cases which I have not seen."

Having endeavoured to ascertain the mechanism which prevails where there is an imperfect consolidation of the callus, our attention will very properly be directed to the investigation of the causes of this failure. The functions of particular parts are so intimately connected with the healthy condition of the whole system, that any disturbance of the general health must have considerable influence on the process by which the union of fractures is to be accomplished. Accordingly, a languid and inert state has been assigned as one of the causes. Its operation must necessarily be temporary, and will cease in proportion as the tone and vigour of the body are restored. This hypothesis may indeed be admitted in explanation of those cases of fracture where the union is suspended for a time, and yet becomes perfectly solid when the patient has been relieved from an irksome confinement, and allowed to enjoy the invigorating influence of air and exercise. These remarks apply equally to certain morbid conditions of the body, as syphilis, scurvy, &c., which have been occasionally adduced to explain the formation of an imperfect callus; for when such disorders of the constitution have been corrected, the bones have been observed to become firmly united.

In fractures which have occurred in pregnant females, it has been remarked, that the union has taken place very slowly, and, in some instances, that it has not been completed until after parturition. The operation of this cause is necessarily confined to the sex, and is even in them extremely partial.

When the bones have been broken, the coaptation of the fragments, and the due retention of them in a state of rest, are considered as essentially contributing to the perfect union. The production of a preternatural joint has, therefore, been, by many writers, ascribed to negligence on the part of the practitioner, or to restlessness in the patient. But in cases of compound fracture, the treatment generally requires that the limb be moved every day, and the relative position of the fragments is, consequently, more frequently disturbed than can occur in the treatment of simple fractures; and yet an imperfect consolidation of the callus is not more common in fractures of the first description. And the influence of this cause cannot be admitted in those cases of fracture, as of the leg, where the fibula has united, while in the tibia the union has not been completed. The case of Peckup, as recorded by Mr. WHITE, is illustrative of this kind of irregularity in the union of the two bones: and three cases of the same kind have come under my notice, one of which I shall have occasion to mention in a subsequent part of this essay.

This review, however humiliating the reflection, is not calculated to afford any one precise information respecting the object of our inquiry. But the improvement of medical science has not been much advanced by the substitution of theories unsustained by the phenomena with which we are acquainted. And although we remain ignorant of the causes which prevent the consolidation of the fracture, we are not altogether unprovided with means for remedying the defect, and for restoring the parts to the condition fitted for the due performance of all their functions.

The most ancient method of treatment is that recommended by CELSUS, who directs that the two portions of bone be forcibly rubbed against each other, so as to excite inflammation and a deposition of osseous matter. Mr. WHITE records a case of broken thigh bone, where the cure was effected by the patient getting up and attempting to walk, while the limb was confined in strong leather splints. This practice was advised by Mr. HUNTER, and has received the sanction of other eminent surgeons. The success, however, appears to have been very limited; and the majority of persons with disunited fractures were doomed to the inconvenience of a useless limb, or were compelled to submit to its amputation. With the hope of obviating these severe alternatives, in the year 1760, Mr. WHITE proposed, in the case of Robert Elliot, a healthy lad of nine years, the following operation: by making a longitudinal incision down to the bone, by bringing out the ends of it, which might be done with great ease, as the arm was flexible, and cutting it off either with the saw or pincers, and then replacing the two portions of bone, and pursuing the treatment as in compound fracture. In this instance a perfect union was established; and similar results have occasionally been obtained by other surgeons, but the success has been by no means uniform. The operation is, unquestionably, severe, requires a very cautious procedure through the different steps, and occupying considerable time, necessarily subjects the patient to long continued pain, and all that distress which is usually felt when cutting instruments are employed. The difficulties, the danger, and the frequent ill success of this operation, suggested to Dr. PHYSICK the propriety of adopting a different mode of treatment. The process of passing a seton into the natural cavities, with the view of producing permanent adhesions between the contained and containing parts, has been frequently resorted to. In the radical cure of hydrocele, and in the treatment of extensive abscesses, surgeons have long been in the habit of introducing setons, with the view of exciting granulations and promoting adhesions between opposite surfaces. Moreover, the records of surgery afford abundant proof of anchylosis having been produced, by setons passed into the natural joints, in the treatment of the diseases with which these parts were affected. It was in the year 1802, that Dr. PHYSICK had an opportunity of treating a disunited fracture of the humerus by seton; and, in the course of five months, the union was completed, and the man was discharged from the Pennsylvania Hospital, enjoying the full use of his arm. Since the above period, this mode of treatment has been frequently employed, both in this country and in Europe; and, I believe, with pretty general success. The operation of passing the seton was, however, twice ineffectually performed by Dr. PARRISH in the case of Mundy; and the failure in this instance, I think, proves that it is not adapted to fractures presenting irregular surfaces. After this failure, desirous that no means should be left untried by which a reasonable hope might be entertained of the man's recovering the use of his arm, it was determined, in a consultation, in which all the surgeons of the house concurred, that the operation of sawing off the ununited extremities of the bone should be performed. The man bore this very painful operation with admirable fortitude, and after a lapse of four months the union was completed and the powers of the limb restored.

In addition to these means, Dr. HARTSHORNE has recommended the application of caustic, in the instance of the superficial bones, as the tibia and ulna, so as to act immediately on the part where the fracture was seated. In the deeper seated bones, the influence of the caustic will be extended through the muscles and other coverings of soft parts to the imperfect callus, exciting the healthy actions in a manner corresponding to what we observe in the treatment of many diseased joints. In illustration of this mode of treatment, I beg leave to offer the following case; which, in other respects, is not altogether deficient in interest, as it affords an example of disunited fracture in a person of sound constitution, and at the most vigorous time of life.

Case.—Isaac Hervy, aged 35 years, of florid complexion, and of square stature, was admitted into the Pennsylvania Hospital, on the 15th of March, 1827, on account of an imperfect union of the tibia, near to its centre. In August, 1818, both bones of his leg were broken. He was subjected to a severe antiphlogistic treatment, and lost several pounds of blood. It was not until six weeks after the accident that he was allowed any portion of animal food. When admitted, he was unable to walk without the assistance of crutches, and he experienced great pain when he attempted to rest on the limb. On the 23d of March, a week after his admission, I made a transverse incision through the integuments down to the preternatural joint; I then removed a considerable portion of the ligamentous substance constituting the bond of union, after which I applied the caustic potash to the surface which had been exposed. This done, the part was covered with a poultice, and the limb put at rest. The succeeding day the man experienced considerable pain, accompanied by convulsive twitchings of the leg. These were relieved by moderate doses of opium. On the 7th day, inflammation and swelling came on, but subsided with a free suppuration, that proceeded from behind the tibia. In eight weeks the wound had cicatrized; and, at the end of twelve weeks, the man left the hospital, the tibia, apparently, perfectly united.

ARTICLE II.—*History and Dissection of a Case, where a regular communication had been established, by disease, between the Ovaria and Bladder.* By J. MARSHALL PAUL, M. D.

THE subject of the following interesting case came under my notice about the beginning of the present month; and I had the satisfaction of ascertaining, after her death, (in company with my friend Dr. JAUDON,) the real nature of her disease. As the patient had been under the care of Dr. SAMUEL WILSON, previous to his leaving the city, for a long time before she was transferred to me, I have obtained from him the following history of her case up to that period; which will prove interesting, and will prepare us, in a measure, for the result which the post-mortem examination made known.

Dear Sir,

The following history of the case of M. R——d, is from my note-book, excepting the latter part, which is from memory alone. I have only to regret that it is not more minute. Its correctness you may depend on.

On the 22nd of April, 1826, I was called to visit M. R., a widow woman about forty-two years of age, and the mother of several healthy children. Since the birth of her last child, perhaps four or five years ago, she had been afflicted with violent pains in her abdomen, coming at intervals upon her, and attended with an enlargement during the continuance of the attack, resembling pregnancy at the full term. The pains, commencing in the back and loins, and extending round to the pubis and down the thighs, were most excruciating, ending frequently in a state almost of insensibility. Conceiving the uterus to be the seat of inflammation, I directed free depletion, some purging medicine, and the lightest diet. A blister was placed afterwards upon the lower part of the abdomen, from which some benefit was derived. A cure, however, not being effected, recourse was had to the blue pill, and after due perseverance she appeared to be entirely relieved. An eruption resembling closely the efflorescence of intemperance, and in the same situation upon the face as that mark of the drunkard, was entirely removed by the course of medicine, but made its appearance again after her recovery.

On the 1st of July, 1826, I was again requested to see her, and found her labouring under a return of her old and painful symptoms. She attributed the relapse to too much exercise and exertion in the care of the house and family of a lady travelling; which charge she had undertaken, although in a state of weakness and exhaustion. The violence of the attack, at this time, was even worse than before.

After treating her for a day or two with antiphlogistic remedies, I called on Dr. HARRIS, who kindly saw the patient with me. After a minute inquiry into all the symptoms, and an examination per vaginam, it was concluded that there existed a scirrhus of the uterus. The os tincæ was found hard and knotty, and so extremely tender to the touch, that the slightest pressure excited a recurrence of the spasmodic pains. There was some discharge, but neither fœtid nor copious. Fever also made its appearance in the afternoon, and continued through the night, with a remission in the morning.

The plan of treatment adopted, was the following. The patient was put on a low regimen; with the occasional use of laxatives, and of anodynes, when harassed by the violent pain. Two grains of the best *ext. cicutæ* were directed to be taken twice in the day, with a pill of the *carb. sodæ*, also twice; the quantities to be increased as the constitution became accustomed to the medicine. She was cautioned also against exertions of every kind, and ordered to keep herself as quiet as possible. Under this system she became much better, and strong hopes were entertained of a perfect cure being effected. On the 22nd of August, the pains had entirely left her; and she continued free from them for some time. But the symptoms returned again; and after a long perseverance in the use of the cicuta, it was finally abandoned. The antiphlogistic regimen, however, and the use of anodynes, were continued. In this state she remained, alternately better and worse, until the middle of the winter, by which time the symptoms had become much aggravated. She had now frequent attacks of suppression of urine, and discharged much matter, apparently of a sabulous character; but which, when tested in the usual manner, did not exhibit either acid or alkaline properties. Sometimes also she voided with the urine, portions of a substance resembling *pieces of bone* discharged from carious ulcers on the tibia. One of these was rough and scabrous, and more than *an inch in length.* Their passage through the urethra was attended with the greatest pain. For her relief, she used almost every variety of antilithic medicine; but the chief dependance was upon free dilution with mucilaginous and demulcent drinks, together with very large doses of the acetous tincture of opium. Mucilaginous injections into the bladder were also used; for the character of the discharges at this period, led to the supposition, that a communication had been formed by ulceration between the bladder and the womb. In the course of the last spring, she was attacked with dropsical symptoms. These were removed; but, the disease of the uterus continuing, she was at length confined to her bed from debility. The irritation was wearing out her constitution. Her emaciation was extreme; and I was confident, at the time you were good enough to take charge of her, during my absence from the city, that the warm weather would probably terminate her sufferings.

I remain yours, &c.

S. WILSON.

To Dr. J. M. Paul.

August 22nd, 1827.

In addition to the statement of Dr. WILSON, it is only necessary for me to add, that, for the twenty days she was under my charge, there was no material alteration either in her symptoms or treatment, and she gradually declined under the disease, and expired on the morning of the 21st instant.

Dissection.—On exposing the cavity of the abdomen, and removing the omentum, which adhered slightly to the intestines, &c., in many places, we discovered the bladder to be very much enlarged, and apparently in a gangrenous condition. It was supported, and partly surrounded, by a large diseased mass, which occupied, in a great measure, the whole superior portion of the pelvis; resembling the brain in its external appearance, as to size and colour. At the superior part of the fundus of the bladder, a small opening existed, from which purulent matter escaped; but whether this aperture was formed by detaching the omentum from it or not, I am not able to state. On passing the finger into this opening, its inner surface communicated a sensation of roughness to the touch, caused by its mucous membrane being completely studded with fine particles of matter, resembling sand or partly dissolved bone. By making an incision into the bladder, a regular communication was found to be established between its posterior-superior part, and the diseased mass before mentioned; which, on further examination, proved to be the ovaria, united, very much increased in size, altered both in appearance and structure, and converted into a fatty substance, (as described by BAILLIE in his morbid anatomy,) containing a considerable quantity of *hair* similar to that on the human head, besides *five teeth*, perfect in all their parts.

The uterus was found occupying its usual position, but wholly concealed by the tumour; the os uteri was natural as to size, but somewhat indurated; the fundus larger than ordinary, but not varying much from the healthy standard. On exposing the uterine cavity, it was discovered to be very small, and the *communication* which naturally existed between it and the os tincæ, was completely *obliterated* by previous inflammation, and the whole cervix converted into a firm cartilaginous structure.

J. MARSHALL PAUL.

Philadelphia, Aug. 26, 1827.

ARTICLE III.—*Observations on Colica Pictonum, and other affections arising from the deleterious operation of lead on the system.* By RICHARD HARLAN, M. D., &c.

HAVING had, for a number of years, the professional charge of the labourers attached to one of the most extensive white-lead manufactories, and chemical laboratories, in the United States, I have had an opportunity of accumulating much practical experience in the treatment of those disorders arising from the deleterious operation of white-lead on the system. I have thought that a brief essay on this subject, including the outline of the practice I have pursued in this complaint, could not fail to prove interesting to the medical public.

The men employed in this establishment are, for the most part, of robust constitutions, and are principally natives of Ireland and Germany. The factory is placed in a situation in other respects healthy, and personal cleanliness is much insisted on by the careful managers.

In this, as in most other maladies, a certain degree of susceptibility of the system appears necessarily to precede the attack. Drunkenness, or habitual dissipation of any kind, renders the system peculiarly liable to the disease, and frequently leads to a fatal issue. Sudden transitions of temperature, together with exposure to cold and moisture, are predisposing causes. The greatest number of cases have fallen under our notice late in the spring and early in autumn.

Of the youths who constantly work at rolling the sheets of lead, in the melting room, only one has been affected with *lead disease.* A boy, about 12 years of age, was attacked at night with paralysis of all his extremities, and with pain in the abdomen. He was treated with mercury, cathartics, &c. He recovered—returned to work, and again relapsed in three or four days. He finally recovered, with the usual remedies, and was discharged from the manufactory.

The different stages of manipulation in the manufacture of white lead, render the labourer obnoxious to these affections, and also give rise to some peculiarities in the attack and in the symptoms. The most dangerous operation consists in the packing of the kiln-dried white lead into barrels, a process performed by *negroes*, who are employed for the purpose at short periods, and at considerable intervals; and, though a great quantity of dust is necessarily received by inhalation into their lungs during the continuance of their labours, but a single case of the disease affecting the negro has occurred during my professional attendance on the manufactory: this man had a severe attack of colica pictonum, from which he recovered. Those hands employed in melting the metal in the casting-room, are more liable to be attacked with apoplectic or epileptic convulsions, without pain in the bowels during the first stage; and such cases are more apt to terminate in *paralysis*.

Frequent opportunities have occurred to demonstrate, that man is by no means the only animal subject to this disorder. Dogs, cats, cows, and chickens, not unfrequently die with this affection. In the latter, "post mortem" examinations have displayed mortification of the intestines. Symptoms of cerebral derangement have manifested themselves in the feathered tribe, when labouring under the deleterious effects of white lead. After a few moments of cataleptic abstraction, they have been observed to dash their heads against the wall, or any other resisting object.

As a rational practice in any malady must always vary, according to the symptoms, or, in other words, according to the organ or set of organs, whose functions are principally impaired, I propose to offer a few observations on the different modes of attack, together with the various methods of treatment instituted in this complaint.

I have formed no particular theory as to the essential seat of the disorder called "*lead disease*," that is to say, whether or not, the liver, colon, stomach, brain, or vascular or nervous systems, are *primarily* affected; and shall confine my observations to such symptoms as have first come under the cognizance of my senses in the numerous cases which it has been my lot to treat.

The saturnine carbonate, or white lead, taken into the system, either by the stomach, lungs, or skin, and I believe it may enter the system by all these organs, does by no means invariably produce colic, pain in the bowels, or constipation as an early symptom. On the contrary, I have frequently observed that some of the most obstinate and severe cases of "lead sickness" are ushered in by a diarrhœa, sometimes continued for two days, but which is mostly checked by proper remedies in a few hours. In other cases, the patient is attacked, generally at night, with symptoms which I have designated as *apoplectic*, from the suddenness of the attack, the stertorous breathing, and insensibility, generally attendant; but at the same time, it must be remembered, that there exists a state of the system very different from that which prevails in apoplexy. Together with the symptoms above stated, the patient is cold, particularly his extremities; his countenance, in place of being suffused, is pallid; and convulsions of the whole frame frequently occur. This order of things continues from a few hours to three or four days. In these cases, as might have been anticipated, the patients do not bear general bleeding. The best practice consists in the administration of calomel and opium, notwithstanding the constipation of the bowels and determination to the head, resorting, at the same time, to the early use of cathartics. These remedies, assisted by the application of cups to the head, and a blister to the back of the neck, with rubefacients to the lower extremities, will generally prove successful in curing the disorder, or in transferring it to the bowels. I have witnessed one case of this description treated differently, which terminated in the death of the patient. A young man, of rather a nervous temperament, who had been employed in grinding white lead in oil, was attacked, early the next morning, with convulsions, and with other symptoms partaking of the character of apoplexy and epilepsy. This patient residing at the extremity of the city, it was late in the day before I was enabled to visit him, when I found a young practitioner in the act of bleeding him from the arm. I soon explained to the doctor my opinion of the nature of the disease, and indicated to him my mode of treatment; but he could not be made to comprehend that opium could be administered with safety in any disease in which constipation is a prominent symptom; in fine, he refused to be advised, or to leave the patient. We subsequently learned, from the relatives of the patient, that the complaint left the head in a short time, and fixed upon the abdominal viscera; (which is the usual progress of this form of the disease;) and that the patient died in three or four days, with symptoms of mortification of the intestines.

But by far the greater number of patients afflicted with "lead sickness" display the symptoms of old-fashioned colica pictonum, or "dry belly-ach:" in which case we find them labouring under excruciating griping pains in the region of the umbilicus; the skin of the abdomen is thrown into folds or knots; obstinate constipation prevailing, with febrile excitement; the tongue being sometimes white, at others covered with a thick brown fur. The pain is principally spasmodic, occurring at intervals of different durations, and is seldom entirely intermitting. After numerous trials of various remedies, my practice has, for a length of time, been fixed and settled.

We will take, for example, a violent case, characterized by the above detailed symptoms. It is my practice to bleed from the arm; and in some cases cups are applied to the abdomen, or a mustard plaster, followed by an epispastic over the inflamed skin. But, at all events, I lose no time in administering calomel and opium, in the proportion of ten grains of the former to two or three of the latter; and, if there be no nausea present, two grains of ipecacuanha are added. The whole powder is repeated every two or three hours, until pain is relieved, or ptyalism is induced; it is then omitted, and one or other of the following cathartics given. ℞. sal. eps. ℥j., magnes. ustæ. ʒss.; mix them in a pint of water, and take from a wine-glass-ful to a tea-cup-ful every two hours. Or ℞. rad. rhei. contus. ʒss., fol. sennæ ℥j., sem. cardam. ʒij.; decoct in one pint of water. The dose is one wine-glass-ful every two hours, until the bowels are evacuated.

At this stage of the disease, patients will require large doses of the cathartic; and, if administered earlier in the case, or previous to the free administration of mercury and opiates, no quantity that the stomach is capable of containing can be made to produce a cathartic effect on the bowels. I have frequently witnessed the whole quantity of both the above prescriptions taken, together with the addition of castor oil, without any effect. As the excitement of ptyalism is of vital importance in violent cases, the blisters on the abdomen are to be dressed with mercurial ointment, and mercurial frictions, to a greater or less extent, are to be resorted to: especially if any torpor or insusceptibility in this respect is observed in the patient.

As valuable adjuvants in such obstinate constipations, the use of turpentine injections, or injections of molasses and water, with half an ounce of table-salt, is next to be resorted to. In some cases, where the heat of the abdomen was very great, attended with soreness on pressure, anxiety, and restlessness, with other symptoms denoting approaching enteritis, the most decided advantages have been obtained by the use of large and frequently repeated injections of cold pump water. In this manner heat is abstracted, and inflammation prevented or arrested. Affusions of cold water on the lower extremities have also been resorted to with success in similar constipated cases. This treatment, under ordinary circumstances, will seldom fail of success. One patient recovered after having displayed every character of the hippocratic countenance: a state of things, in the present instance, induced by gastric sympathies; the patient, previous to being relieved, having ejected from the stomach a large quantity of matter, resembling thick green paint.

Cases still more violent and difficult of management remain to be noticed. I allude to those attended from the commencement with severe irritability of the stomach and bowels, and with obstinate vomiting, the stomach ejecting every article taken. I have employed laudanum, peppermint, calomel and opium, and oil of turpentine, together with the external application of spices and rubefacients. When all these remedies have failed, I have succeeded in allaying the irritability almost instantly, by a remedy which would not have been "a priori" resorted to in this disorder. I allude to the powdered saccharum saturni. To the use of this article in cases similar to those detailed above, I was first led, by observing its calming effects when used to relieve the tormina, tenesmus, and gastric irritability, occurring in dysentery.

The very successful results of the use of sugar of lead in the obstinate epidemic of the year 1820, has been already detailed in a paper published in the Medical Recorder. It is there stated, that I had even resorted to the use of sugar of lead in colica pictonum, complicated with this excessive degree of gastric irritability; but added that I was not prepared, at that time, to speak with sufficient confidence to recommend its general use. Some editorial remarks are appended to the paper here alluded to, the tenor of which we by no means approve. The editor there condemns the internal use of sugar of lead in dysentery. It having been administered by him, "in one case, a child about two years old, the discharges were speedily checked, but the patient was incessantly tormented by a painful pressing down of the bowels; much general distress was also experienced by the child, as was evident from the countenance, restlessness, and occasional screams."—Vide *Med. Recorder, for* 1822, p. 657.

With due deference to that editor's opinions, we are under the impression that the symptoms which he attributes to the remedy, are precisely those which characterize the disease under his consideration. Since this period, I have frequently used the saccharum saturni in dysentery, and always with the most desirable results; and the estimation in which I at that time held this *remedy*, has been frequently confirmed by the testimony of other practitioners, more especially of those of the southern states.

In those cases of lead-colic, to which I have particularly referred above, I have found no remedy so well adapted to the purpose, as the sugar of lead. After having in vain endeavoured to allay gastric irritability by calomel and opium, assisted by the usual remedies, I resort to the use of the following prescription. ℞ cal. ppt. gr. v., pulv. opii. gr. ij., pulv. sacch. sat. gr. iij.—m. ft. pulv.; to be repeated every two hours until relief is obtained; *which is generally* the case after two or three powders have been taken. Injections of saccharum saturni, with opium, in solution, have also been successfully used for a similar purpose.

I have already administered this remedy with success in bilious fevers of high grade, where excessive irritability of the stomach precluded the internal use of all other remedies. Under similar circumstances, I propose to administer this remedy in *yellow fever*, the next opportunity which presents itself.

In one case of cholera morbus, in an advanced stage, I administered an enema of ℈i. of saccharum saturni, with ℥ij. of tincture of opium. By this treatment, once repeated, it appeared to me that the life of the patient was preserved.

After the administration of this remedy in colica pictonum, and when the stomach is calmed, the usual remedies are resorted to. The substances ejected from the stomach, in these cases, consist, for the most part, of vitiated bile, the quantity being at times exceedingly great.

When the bowels have at length given way to the effects of medicine, at times, enormous quantities of feculent matter, with flatus, are discharged; and, if not moderated, the catharsis would endanger the life of the patient. For this purpose, if pain still remains, I give castor oil and laudanum, or, if the stomach reject this, small doses of spirits of turpentine and olive oil, alternated with laudanum. But, should torpor of the bowels still remain after the violence of the disease has been overcome, I have found a useful remedy in a mixture of castor oil and spirits of turpentine, in the proportion of a table-spoon-ful of the former, to a tea-spoon-ful of the latter. In more obstinate cases of torpidity of the bowels, under these circumstances, I have resorted to the use of croton oil, with signal advantage. This was particularly the case in two patients, who, after recovery from a severe attack of colica pictonum, had a *relapse*, without any subsequent exposure to white lead; having been seized with catarrh from exposure to cold and damp.

I stated, in the commencement of this essay, the peculiar liability of one form of this disease to terminate in paralysis of the extremities, most generally of the fore-arms. One instance only has occurred under my own superintendence; but I have had occasion to treat several cases of this nature which had been under the care of other physicians. These patients finally recovered, with the exception of one, under the use of powdered nux vomica, caustic issues on each side of the nape of the neck, and purging medicines, continued for two or three months.

Notwithstanding the utmost care and attention on the part of the medical attendant, this disease will frequently terminate in inflammation of the intestines; but this is by no means necessarily fatal, provided the attention be attracted in time to this symptom. Post-mortem examinations, at least such as occurred under my own inspection, have invariably displayed mortification of the intestines, provided mania a potu had not supervened and carried off the patient. Four cases only have terminated fatally under my own treatment. Three of these were habitually intemperate; and the other, an ignorant German, unacquainted with the dangerous nature of his complaint, suffered himself to be neglected for three days previous to making application for relief.

From the severity of the disease, together with the use of the necessarily violent remedies, dysentery, with copious discharges of blood, is not unfrequently induced; in which case, no remedy is more effectual in relieving pain and suppressing the discharge, than the pulverized saccharum saturni, in combination with calomel, opium, and ipecacuanha. Should the blood discharged, after long continued constipation, present a grumous or coffee-ground appearance, it indicates commencing mortification, which for the most part speedily ends in the death of the patient.

In writing the above, I have carefully avoided discussing the various and conflicting opinions of authors, in relation both to the pathology and treatment of these diseases; wishing to confine myself to a record of observations which have been elicited by actual experience. It is unnecessary to add, that I feel by no means satisfied in any of the systems of practice mentioned in the *Dictionnaire des Sciences Medicales.*

ARTICLE IV.—*On Hæmoptysis.* By D. FRANCIS CONDIE, M. D.

THE word hæmoptysis,* would evidently include every hæmorrhage in which the blood is discharged in the act of spitting, whether it proceed from the gums, fauces and posterior nares, or from the respiratory organs, properly speaking. With the view, therefore, to the attainment, as far as is possible, of that precision, so important in medical nomenclature, the term should be understood as being restricted, invariably, to hæmorrhages from the trachea and bronchial ramifications. It is with this application that it will be employed in the present essay.

Hæmoptysis is, undoubtedly, one of the most common forms of spontaneous hæmorrhage; the reason of which it is very easy to understand: for, besides the great amount of blood which constantly circulates through the highly vascular system of the respiratory organs, thereby rendering them peculiarly liable to become the seat of sanguineous congestions, they are, also, from their continual contact with the atmospheric air, subjected, every moment, to the influence of its various, and frequently sudden, vicissitudes; while their agency in the acts of speaking, singing, crying aloud, &c. renders them peculiarly liable to improper and excessive excitement and irritation; especially in those individuals, in whom they are already predisposed to disease, in consequence of mal-conformations of the chest, of incipient phthisis, of previous attacks of obstinate catarrh, or other causes.

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* From 'αιμα, sanguis, and πτυω, expuo,—sanguinis expuitio.

Hæmoptysis occurs most frequently between fifteen and twenty-five years of age. Those, however, more advanced in life, are occasionally subjected to its attacks, while it is of very rare occurrence during infancy.

Persons born of parents who have been affected with this hæmorrhage, are said, upon highly respectable authority, to be more predisposed to its attacks than others. It is, also, of more frequent occurrence in subjects of a sanguineous temperament, or in whom the sanguineous system predominates, in those of enfeebled constitutions, and of irritable dispositions, and especially in those who are predisposed to phthisis. The existence of tubercles in the lungs, would, indeed, appear to be among the most common causes productive of hæmorrhage from these organs. In many instances the discharge of blood is found to precede, for even many years, the development of the peculiar symptoms of phthisis; in some, the latter have presented themselves, almost simultaneously with the very first attack of hæmorrhage; while again, in other instances, not the slightest appearance of hæmoptysis will be perceived, until the tuberculous condition of the lungs has existed for a length of time, and the symptoms indicative of phthisis have made considerable progress. On this point, however, we would wish not to be misunderstood. There is not any necessary connexion between the discharge of blood from the respiratory organs, and phthisis; nor is the former, as has been supposed by some,* invariably a precursor of consumption. Many individuals have come under our own observation, who, notwithstanding they had suffered repeated severe attacks of pulmonary hæmorrhage, have, nevertheless, lived to an advanced age, without exhibiting a single symptom that should lead us to suspect the existence of tubercles in their lungs. A similar statement is made by Bricheteau, Andral, Chomel, and others. But according to the first mentioned writer, persons who have laboured for a considerable time under hæmoptysis, become, finally, affected with a species of consumption, independent of the presence of tubercles; examination of their bodies after death, showing that the symptoms of phthisis had been occasioned by a suppuration of the lungs, produced by the long continuance of the hæmorrhagic irritation. It is hardly necessary to add, that phthisis not unfrequently runs its entire course, and terminates in death, without being preceded, or accompanied by a spitting of blood.

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* Thus Hippocrates Επι ʽαιματος πτυσει, πυȣ πτυσις—a sanguine sputo, puris sputum. *Aphoris.* Sec. vii. 78.

Certain trades and professions have been noticed as peculiarly liable to induce the disease under consideration; thus public speakers, especially such, as from their habit of addressing large audiences, are required, for several hours at a time, to exert their voices to their utmost pitch, players on wind instruments, and those individuals whose employments constantly expose them to an atmosphere loaded with fine dust or irritating vapours, are well known to be more liable than others, not only to hæmoptysis, but, also, to various other diseases of the respiratory organs. According to Stoll, taylors are very apt to be affected with a spitting of blood,—and this he attributes, with much plausibility, to the constrained position in which they work, interfering with the freedom of respiration, and thus causing the blood to accumulate in the pulmonary vessels.

The discharge of blood in hæmoptysis takes place, frequently suddenly, and without being announced by any preceding symptoms; a slight cough and the expectoration of a small portion of mucus streaked with blood, or even of pure blood, being the first indication of the disease. It is, however, almost alone in those who have been previously affected with hæmoptysis, that the attack commences in the manner just described: more commonly, it is preceded by certain local, as well as general symptoms, by which the patient is warned of its approach, such as a painful sensation, weight, numbness, or constriction, and more or less of heat, in the whole, or some particular portion of the thorax; sometimes only on one side, at the sternum, or between the shoulders; with these, there is generally some difficulty in respiration, a dry cough, or an expectoration of frothy mucus, and frequently, a saltish or peculiar taste in the fauces. To the foregoing local symptoms, may be joined, a sense of chilliness over the surface of the body, but particularly of the extremities; lassitude, alternate paleness and flushing of the cheeks, followed by fever, pain or tension of the head, palpitation of the heart, and, for the most part, a hard and accelerated pulse. The blood exhaled into the bronchia, is not always immediately discharged externally; its presence, in such cases, is very commonly indicated by a rattling in the chest and trachea, occasioned by the blood, mixed with air, being agitated in the act of respiration. The difficulty of breathing and the oppression at the chest, is also, much greater than before the blood had been thrown out by the vessels. So long as the hæmorrhagic action of the latter continues, more or less of the rattling in the chest, with the dyspnœa, and the other phenomena, produced by the presence of the effused blood in the lungs, continue to be experienced.

In hæmoptysis the blood is discharged by the mouth, at different intervals. In the greater number of cases, its presence in the bronchia excites a fit of coughing, by which a portion of it is thrown into the fauces, from whence the patient discharges it in the act of spitting. When, however, the hæmorrhage is very profuse, it is discharged from the lungs by a violent, almost convulsive, effort of the respiratory organs, when it gushes, as it were, in torrents, or in nearly a continued stream, from the mouth and nostrils.

The blood discharged is very commonly of a bright arterial hue, frequently combined with mucus, and frothy, in consequence of its admixture with the air inhaled into the lungs. But when the blood is effused to any considerable extent, it is frequently pure, and without any admixture of air; on the contrary, the flow of blood from the vessels being moderate in quantity, it may remain for some time in the bronchia previously to its being discharged externally, in which case it is generally combined with more or less of mucus, of a dark colour and coagulated; this is very commonly the case in the decline of almost every attack of hæmoptysis.

The quantity of blood lost, in each attack of pulmonary hæmorrhage, is extremely variable, one patient discharging but two or three spittings, while another will lose, in a short space of time, many pounds. When the hæmorrhage is to any considerble extent, it produces upon the pulse, the colour of the skin, and the general strength of the patient, &c. all the well known effects resulting from every excessive loss of blood from the system.

The progress and continuance of hæmoptysis varies, in almost every separate attack. After the discharge of a few mouthfuls of blood, the hæmorrhage may cease, and not again return, until after a considerable lapse of time, while in other instances, the discharge being far more considerable, it may gradually decrease in violence, or continue with little abatement for many days. Similar varieties are observed in regard to its recurrence,—it not returning for years, or being repeated weekly, daily, or even at shorter intervals; frequently without any apparent exciting cause, but more generally, in consequence of some imprudence on the part of the patient, such as taking food or drink of too stimulating a quality, over-exertion, exposure to cold or dampness, extreme heat, a paroxysm of anger, &c.

Very frequently, when the hæmorrhage has ceased, the patient still continues to be affected with a cough, some degree of difficulty in respiration, and an expectoration of mucus, indicating the continuance of irritation in some portion of the pulmonary apparatus. The cessation of the attack of hæmoptysis may, also, be succeeded by all the symptoms of pneumonia, or the phenomena attendant upon phthisis may, very quickly, or by degrees, develop themselves.

It is an important circumstance always to be kept in mind by the physician, that the individual who has experienced one attack of hæmoptysis, is always peculiarly liable to its return at some future period. In some instances it is found to recur periodically; this has been observed to be particularly the case in females who labour under a suppression of the menstrual flux, and in males affected with hæmorrhoids. In the majority of cases, however, the disease returns at irregular periods, and, as we have previously remarked, most generally in consequence of the occurrence of some exciting cause.

Hæmoptysis may be induced by any circumstance, capable of, either directly or indirectly, exciting irritation in some portion of the mucous membrane of the respiratory organs. The ordinary causes are, exposure to a cold and damp atmosphere, the inspiration of very cold or very hot air, of irritating vapours, gases, &c., a considerable muscular exertion in lifting a heavy weight, insolation, blows or falls upon the thorax, a violent and prolonged exertion of the respiratory organs, in reading aloud, or speaking with energy, violent exclamations, frequent playing on wind instruments, a violent paroxysm of anger, or other intense excitement of the mind. A cause of hæmoptysis of occasional occurrence, is a considerable diminution in the pressure of the superincumbent atmosphere, particularly when an individual, having ascended to a considerable elevation, is placed under the influence of a column of air, much lighter than that which he is destined ordinarily to support.

Various diseases of the lungs, or of some other of the viscera, may favour the production of this hæmorrhage. We have already noticed its frequent connexion with tubercles; the repeated occurrence of bronchial inflammation; a dry and harsh cough, from irritation of the lungs, and certain organic affections of the heart, may, also, concur in its production. A diseased condition of the abdominal viscera may, likewise, in some instances, occasion hæmoptysis; thus STOLL, HOFFMAN, LATOUR, and others, relate cases in which the hæmorrhage appeared to be intimately connected with extensive engorgement, and other morbid conditions of the liver, spleen, mesenteric gland, &c. In these cases the hæmorrhage may have been produced, either by the enlarged condition of these viscera, encroaching upon the cavity of the thorax, and thus interfering with the freedom of respiration, or by the irritation under which they labour being propagated to the respiratory organs and exciting in their vessels a hæmorrhagic action. By ANDRY and DAULIOULLE we are presented with two cases, in which the hæmoptysis appeared to be kept up by the presence of worms in the intestines. In both, the hæmorrhage ceased upon the expulsion of the worms, after the employment of anthelmintic remedies.

Rupture of one or more blood vessels, debility of the extreme arteries, and an ulceration of the lungs, have been the immediate causes to which hæmoptysis has been referred by the majority of medical writers.

The sudden manner in which many cases of hæmoptysis occur, their immediately succeeding to some powerful muscular exertion, a violent paroxysm of anger, or other intense excitement, and the great amount of blood frequently discharged, have been the causes which, no doubt, have led to the supposition of this hæmorrhage being dependent upon rupture of an artery. In the present state of pathology, however, conclusions as to the nature of a disease founded upon reasons of so vague a character as those we have just enumerated, will, it is believed, meet with very little respect.

If we inquire in what manner hæmoptysis from a ruptured blood-vessel can be occasioned by muscular exertion, or a paroxysm of anger, it will be replied, that these causes increasing violently the action of the heart, a volume of blood is in consequence determined into the vessels of the lungs, with a force sufficient to produce in their coats a solution of continuity.* But that no such *local* determination can be produced, in the manner here supposed, must be evident, from the most superficial view of the mechanism of the circulation, and of the action of the heart upon the contents of the arteries; while from the phenomena of disease we learn, that whenever an increased amount of blood circulates through any particular part, it is, in consequence, not of an increase of action in the heart, but of an irritation existing in the vessels of the part, and attracting to them the blood.

In regard to the amount of blood thrown out, we can see no reason from this, to infer the rupture of a vessel. Let any one cite to us a case of the most excessive hæmorrhage, and we can present to him one of simple expectoration or flux of mucus, in which the amount of fluid discharged, shall exceed the quantity of blood poured forth in the former. The fact is, the colour of the blood, its importance to life, and the sensations always excited by the loss of a very small portion of it, are circumstances very apt to mislead us in our conclusions upon this point. It is now satisfactorily ascertained that the vessels of a part, when labouring under irritation, have the power of exhaling blood, in the same manner they do serum or other fluids, and, probably, to as great an extent.

Hæmoptysis from the rupture of a vessel is not, we acknowledge, impossible; it is, however, we believe, of very rare occurrence, and when it does occur, we suspect that the blood will generally be found effused in the substance of the lungs, and not to be discharged externally. It is to be recollected, that in hæmoptysis the hæmorrhage almost invariably proceeds from the mucus membrane of the trachea or bronchia, a situation at which rupture of a blood vessel very rarely, if ever, takes place. The cases of hæmoptysis upon record, presumed to have arisen from rupture, are extremely equivocal, the presumed source of the blood not being established by the appearances met with subsequent to death. In many instances, indeed, in which a fatal result has occurred, in cases succeeding almost immediate to some violent muscular exertion, the most accurate post mortem examinations have shown that no rupture of any vessels in the lungs had taken place.*

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* That this is the doctrine of the books will be perceived by a reference to Cullen's First Lines—734 to 774 inclusive, and to Good's Study of Medicine, vol. iii. p. 175.

I have opened, observes Bichat, a great number of subjects who have died during hæmorrhage from the lungs, and on examination of the bronchial surfaces, could never discover the least trace of erosion or rupture of the vessels, notwithstanding I have taken the precaution to wash carefully these surfaces, to allow them to macerate, and to examine them with the glass. M. Andral, who has recently, in the course of his observations upon pulmonary tubercles, paid considerable attention to the morbid appearances in the lungs of those who have died during hæmoptysis, confirms fully the statement of Bichat; he was able, in no instance, to recognise any other source of the hæmorrhage than the surface of the mucus membrane of the bronchia. Excepting in those cases in which the hæmorrhage was complicated with tubercles, the bronchial membrane presented the same appearances as in simple bronchitis. In some instances, it was pale, or at most presented but a slight rose coloured tint. Morgagni mentions the appearances he met with after death, in cases of hæmoptysis, to be, engorgements of the lungs, and tubercles, in the neighbourhood of which, the vessels were dilated. Portal relates the case of a young man that had laboured under hæmoptysis for many years, in whom the lungs after death were found to be perfectly sound, but the bronchial glands were engorged and covered with vessels greatly dilated, many of which terminated by open extremities into the cavity of the bronchia.

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* A very interesting case of this kind is related by Baumes in his *Dissertatio de hæmoptoe*, 1748.

According to LAENNEC, whose accuracy of observation will not, it is presumed, be called in question, two varieties only of hæmoptysis can arise from rupture of the blood-vessels. The first, when an aneurism bursts into the trachea or bronchia, and the second, when there is a rupture of a vessel into a tuberculous excavation; an event, he adds, which I have already shown to be extremely uncommon. These two species of hæmorrhage are, however, he continues, followed by almost immediate death, and can, by no means, explain the phenomena of a disease of so common occurrence as hæmoptysis.

Of hæmoptysis from ulceration of the lungs, we can say but little, morbid anatomy having presented us with but few direct facts upon which to settle this question. We will merely remark, that in those cases of hæmorrhage from the lungs complicated with phthisis, which have been supposed very generally to depend upon ulceration, the blood has been found upon dissection to have been effused from the mucous membrane of the bronchia, and not from the ulcerated portion of the lungs.

Having very fully expressed our own opinions of the pathology of spontaneous hæmorrhages, in a paper published in the third volume of this Journal, page 236, the foregoing remarks are considered to be all that is necessary on the present occasion. When we consider the causes and symptoms of hæmoptysis, the plan of treatment by which it is most effectually controlled, as well as the appearances discoverable subsequent to death, we are irresistibly compelled to view the disease as dependant upon an irritation of the mucous coat of the lower portion of the trachea, or of the bronchia, in consequence of which irritation its vessels are induced to take on a hæmorrhagic action.

By LAENNEC is described a species of violent and extensive hæmoptysis, or, as he terms it, pulmonary apoplexy, which he presumes to arise from an effusion of blood into the parenchyma or the air cells of the lungs. Examinations after death present an exactly circumscribed induration of some portion of the lungs, of a very dark red colour; when cut into, the incised surfaces appear granulated, and when scraped, there is detached from them a small portion of very dark, half coagulated blood. The indurated portion appears perfectly homogeneous, and presents no trace of the natural texture of the parts, with the exception of the bronchial tubes and the larger blood-vessels; the coats of the latter being stained with blood. Sometimes the centre of the indurated mass is soft, or filled with a clot of pure blood; two or three of these indurations are sometimes met with in the same lung, and frequently both lungs present them at the same time. They are most commonly met with in the central portion of the lower lobe, or about the middle and posterior part of the lungs. The diseased portions grow pale upon washing, but lose no part of their consistency. The existence of the lesion here described, remarks LAENNEC, cannot be determined by the quantity of blood discharged; the induration may be very extensive, and the expectoration of blood inconsiderable, while a much larger portion may be discharged simply from a hæmorrhagic action of the vessels of the bronchial membrane.

Of the exact nature of the lesion here described, we pretend not to form any positive conclusion; but so far from its being the cause of the hæmoptysis, as the author would appear to imagine, we should conclude from his own description, that the induration of the pulmonary tissue, as well as the discharge of blood by the mouth, are to be referred to one and the same cause, an irritation of the mucous membrane of the lungs. In the immediate neighbourhood of the induration, we are informed that the lung is frequently rose coloured or even red, and that, when the pulmonary engorgement exists to any extent, the mucous membrane of the bronchiæ is almost always found highly reddened and swollen.

Hæmoptysis is generally, and with propriety, regarded as a serious disease; many persons, however, who have been almost habitually subject to a spitting of blood, or who, at least, have experienced repeated attacks of the disease, have, nevertheless, attained to a very considerable age. PLINY refers to the case of a Roman governor, who, under these circumstances, reached his ninetieth year,—a somewhat similar case is related by ZACHUTUS LUSITANUS, while PINEL cites the instance of Grétry, the celebrated musician, who, from infancy until an advanced age, suffered almost constantly from the disease. Cases which succeed to the suppression of the menstrual discharge, or of some other habitual hæmorrhage, are said to be those most exempt from danger. For the most part, also, those attacks in which the discharge of blood is slight, which occur at long intervals, and can be referred evidently to the influence of some exterior cause, in subjects who have no apparent predisposition to phthisis, are but little to be dreaded, generally yielding very readily to an appropriate treatment. Hæmoptysis is seldom, indeed, dangerous from the mere discharge itself, but from its being connected with, or preceding some organic læsion of the lungs.

Called in to treat a case of pulmonary hæmorrhage, we should direct the patient to remain perfectly quiet, and as much as possible in an erect position; all such portions of his clothing as appear to have any tendency to impede the free exercise of the functions of the chest and lungs, are to be immediately removed, while the air of the patient's chamber is to be kept perfectly fresh and somewhat cool: hence, all those persons, who are not absolutely required as attendants, should be withdrawn from it. If the hæmorrhage be recent, to any considerable extent; if it occur in a full, plethoric, or robust habit, or be attended with much sense of weight or pain, with an excited state of the general circulation, and a full, frequent, hard, or contracted pulse, general bleeding will invariably be demanded. In every instance, therefore, in which the above phenomena are present to a greater or less extent, a vein should be opened, and a sufficient quantity of blood drawn off, at once, to make a decided impression upon the symptoms of the case; and if the hæmorrhage be not considerably abated by the first bleeding, or should it subsequently return, the abstraction of blood is to be repeated, provided it be not forbid by the weakness and slowness of the pulse, or the exhaustion of the general strength of the patient. Should, however, the circumstances of the case be such, as not to warrant a repetition of the bleeding from the arm, as well as in those instances in which the symptoms are perfectly local, or where the hæmorrhage occurs in individuals of an enfeebled constitution, cups or leeches to the anterior part of the chest, or between the shoulders, are to be substituted. In most of these cases it is probable that cupping will be found preferable to leeches. The former, besides depleting from the capillaries, produces likewise, at the part upon which it is performed, a degree of irritation which attracts to it an afflux of blood, that aids considerably in diminishing the irritation and congestion of the pulmonary capillaries, by which the hæmorrhage is maintained. Even when the circumstances of the case are such as forbid the loss of any quantity of blood, decided benefit will be derived from the application to the chest of dry cups; or, probably, instances may occur, in which cupping, both with and without scarifications, may be employed advantageously, at one and the same time. Of course, on these points no precise directions can be given, it being impossible to anticipate every circumstance by which individual instances of the disease may be modified.

As a substitute for direct depletion in hæmoptysis, the employment of digitalis has been recommended. To arrest an attack of extensive pulmonary hæmorrhage, the remedy is, however, totally inadequate; it is always some time before its effects upon the circulation are perceived, while in its operation it is confessedly one of the most uncertain articles of the materia medica. To cases of the disease that have somewhat of a chronic character, the digitalis may perhaps be better adapted: in regard to it we can say nothing from our own experience, having seldom or ever employed it.

Subsequently to the first bleeding, some saline cathartic is to be administered, as well to relieve the bowels from the irritation of retained fœces, as, by its impression upon the vessels of these parts, to produce an increased flow of blood towards them, with the view of diminishing the congestion in the lungs. The cathartic should, however, be given in divided doses, so as only to keep up a gently laxative condition of the bowels, and never to the extent of active purging.

The employment of the nitrate of potass in cases of acute hæmoptysis, after bleeding has been carried to a proper extent, is recommended by most writers, and it is no doubt a remedy deserving of attention. It may be given dissolved in cold water, to the extent of ten grains every three hours. By some European practitioners, it has been administered in much larger doses; but the very great irritation of the stomach we have seen occasionally produced by the too free administration of nitre, would cause us to hesitate before we imitated or recommended this practice. In many cases good effects will be derived from combining with the remedy, minute doses of tartarised antimony. But an inconvenience sometimes resulting from this combination, is, that the emetic tartar even in the smallest doses, will, with many stomachs, excite vomiting; a circumstance which we are persuaded should always be guarded against in the disease under consideration. Emetics have, it is true, been themselves recommended in the treatment of hæmoptysis. Dr. BRYAN ROBINSON, was, in his day, a strenuous advocate for their employment. He accounts for their good effects, by a constriction, which he presumes they occasion in the extreme vessels throughout the system. Whatever benefit may result from the nausea induced by emetics, we are convinced that the act of vomiting would rather increase, than diminish the flow of blood in cases of simple hæmoptysis. CULLEN informs us, that he was induced to make trial of them, upon the recommendation of ROBINSON; but that in one case they produced so considerable an increase of the hæmorrhage, that the possibility of a similar occurrence prevented him from their further trial. Whether there may not occur certain cases of symptomatic hæmoptysis in which emetics would be beneficial, we are not prepared to determine. STOLL describes a species of bilious hæmoptysis, as he terms it, occurring without fever, but with the most decided gastric symptoms; in which he states, that he has frequently known a single emetic put a stop to the hæmorrhage.

Of the beneficial effects resulting from blisters applied to the thorax, when the symptoms of hæmoptysis persist subsequently to free blood letting, &c. there can be little doubt, notwithstanding their proscription by certain practitioners. CHOMEL, quoting MERTENS, speaks decidedly in their favour, at this period of the disease; and Dr. CURRIE of this city, assures us, that, when the hæmorrhage has been of some days continuance, he has frequently known it to be speedily arrested by a blister to the chest. Of the good effects of blistering in hæmoptysis, when properly timed, we can ourselves bear ample testimony.

In the early stage of the disease, after bleeding, the application of cold to the thorax and arm pits, by means of cloths wrung out of cold water, or cold vinegar and water, is recommended by many respectable writers; nevertheless, we cannot but consider the remedy as one, the propriety of which, is extremely doubtful, particularly when it is continued for any length of time. We should apprehend from it, indeed, the production, not unfrequently, of catarrhal symptoms, or even of pulmonary inflammation: in extreme cases, however, the evidence in its favour is such, as would appear to warrant its employment.

The internal use of cold water, has also been proposed. It was employed by De Haen, and, we are assured, with success. Hoffman, likewise, greatly extols it, and Pinel and Bricheteau recommend its use, in conjunction with the external application of cold air, by reducing the temperature of the atmosphere in the patient's chamber; in summer, by the free admission of the external air, and by sprinkling the floor with cold water; in winter, by allowing little or no fire, and by slightly covering the patient with clothes. To a certain extent, this practice may, with great propriety, be imitated.*

In those cases of hæmoptysis in which, after the free use of the lancet, of refrigerants, &c., the hæmorrhage still continues, or in those in which general bleeding has not been thought admissible, we are directed, particularly by the French practitioners, to produce a revulsion from the lungs, by plunging the hands and feet of the patient in hot water, rendered somewhat more stimulating by the addition of mustard, or salt, &c. Of the propriety and frequent efficacy of a similar procedure, there can, we conceive, be no doubt.

By Dr. Rush and other practitioners of our own country, common salt in fine powder, in the quantity of a tea-spoon-ful, slowly swallowed, has been said frequently to put a stop to hæmorrhage from the lungs: we have seen it repeatedly tried, however, without the least good effect, nor do we consider it a remedy upon which much dependance is to be placed. It is noticed here merely on account of the popularity it has attained in this city, from the recommendation of Rush. We are scarcely ever called to a case of hæmoptysis, in which it has not been previously exhibited, either at the instigation of the patient or of his friends. Were, indeed, the effects that have been ascribed to the article, very generally to result from its employment, the physician would seldom have to prescribe for a case of this disease.

When hæmoptysis is attended with much cough, after due depletion, the following prescription will be found not only greatly to relieve this troublesome symptom, but, also, to produce a beneficial result upon the hæmorrhage. ℞ Pulv. ipecacuanhæ gr. vj.—viij., pulv. opii, gr. ij.—iij.; gum acaciæ ℈j. m.; for eight powders, one of which is to be taken every three hours.

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* Vide Gervias de "usu aquæ frigidæ in hæmoptysim."

The efficacy of ipecacuanha, by itself, as a remedy in this disease, has been highly spoken of, particularly by the German and Danish physicians. In the Acts of the Medical Society of Copenhagen, are a collection of facts by Dr. Asheim, in proof of the good effects of the remedy in pulmonary hæmorrhage. This writer directs it in combination with sugar, in doses of two-thirds of a grain every hour. We are convinced, however, that when repeated at such short intervals, it will be found almost invariably to excite vomiting. In the prescription formerly mentioned, we have employed it with the best effects. When the patient is much disturbed by a cough during the night, we have experienced great advantage from giving, at bed time, a pill composed of a grain or two of opium, with one of ipecacuanha.

Notwithstanding a judicious employment of the remedies already recited, if the hæmorrhage still continues in any considerable degree, the acetate of lead, combined with opium and ipecacuanha, will very generally succeed in arresting it, when dependant upon simple irritation, and in moderating it, when connected with organic disease of the lungs. Three to five grains of the acetate of lead, combined with a quarter or half a grain of opium, and one of ipecacuanha, may be administered every three hours, or at shorter intervals.

In favour of the sugar of lead as a remedy in hæmoptysis, as well as in every variety of internal hæmorrhage, the annals of our science are replete with ample evidence. "I have exhibited the acetate of lead," observes the late professor Barton, "generally in combination with a pittance of opium, or of ipecacuanha; and seldom have I been disappointed in my expectations of benefit from the remedy." Heberden, Monro, Williamson, Hill, Reynolds, and several German practitioners, have, also, borne equally favourable testimony of its efficacy.

In hæmoptysis the diet of the patient is a subject deserving of minute attention: it is in vain to attempt the removal of the hæmorrhage, if the irritation be constantly kept up by too much, or improper, food. Under those circumstances in which active depletion has been directed, a nearly total abstinence from food will be required; the patient being allowed little else than lemonade, or barley, rice, or gum water, slightly acidulated, taken cold, and in moderation. Under other circumstances, the diet should be of such a quality, and so restricted in quantity, as to guard against even the possibility of its increasing or exciting the hæmorrhagic irritation. With these precepts in mind, the judicious physician will be led at once to a correct decision in regard to the articles of food to which the patient is to be confined.

By the plan of treatment which has been now detailed, we are persuaded that most cases of simple hæmoptysis will sooner or later be arrested. We pass by in silence, a long list of astringent and tonic remedies, that have been recommended by different writers for its cure. When the hæmorrhage is attended with fever, or occurs in the young and robust, it is confessed on all hands that their employment would be improper; and if the pathology of the disease which we have given, be correct, it will be perceived that, even in the most feeble subjects, there exists a local irritation of the lungs, which the employment of tonics and astringents cannot fail in most instances to increase.

In the absence of the hæmorrhage, we are to endeavour, by every means in our power, to prevent its return in future. To effect this the patient is carefully to abstain from all the circumstances which have been enumerated as exciting causes of the disease: he is to be nourished by a simple, unirritating and moderate diet; to take regular and gentle exercise on horseback, by sailing, or on foot; and, when much debilitated, to wear flannel next his skin. When the hæmorrhage has arisen from, or been connected with, some organic læsion of the lungs or other viscera, we are, of course, to endeavour, by an appropriate treatment, to restore these parts to their healthy condition.

ARTICLE V.—*Case of Lumbar Abscess, connected with Ascites, occurring in the Baltimore Alms-House.* By THOMAS H. WRIGHT, M. D., physician to that institution.

MARY SCHYLAR, aged 22, was admitted into the house on the 7th of May, 1827; her general health much impaired; countenance pallid; great debility; pulse frequent and small; some intumescence of the abdomen; slight œdema of the legs; catamenia suppressed; supposed by herself to be pregnant; and had gonorrhœa.

Shortly after being relieved of gonorrhœa, she complained of pain in the right hip, with some swelling of the part, a sense of soreness upon pressure, pain and difficulty of motion in the right limb, and some increase of fever. An epispastic to the hip removed the pain, and by the use of nitrous and antimonial medicines, the fever was abated considerably, though never entirely removed. A few days after recovery from pain and swelling of the hip, considerable tenderness was experienced in the right side, about the hepatic region, which, like the pain of the hip, yielded in a few days to the effects of an epispastic and diaphoretics.

Some complaint being made, five or six weeks after admission, of weight and pressure in the uterine region, examination "per vaginam" was practised, in order to ascertain the state of the uterus and determine the presumption of pregnancy. The uterus being found in its proper situation, and of the size common to that organ, the patient was pronounced not pregnant, and her condition attributed to chronic visceral derangement, with tendency to abdominal dropsy. The belly was now more tumid than natural; with some degree of fluctuation on percussion, and sensibility to pressure over the abdomen, especially about the hepatic region.

From this time the patient underwent a variety of treatment; chiefly such a union of the alterative, aperient and tonic plan, as seemed adapted to existing circumstances, and calculated to counteract the apparent tendency to the asthenic form of dropsy. For some weeks there was very little obvious change of her general state; the abdomen rather increased in volume, but was not greatly distended; the anasarca of the lower extremities continued; the left more œdematous than the right. The pulse always frequent and small, though not remarkably hurried: little or no febrile heat; thirst not unusual, and no complaint of particular pain in any part of the body. After the affection of the hip was removed, there was no pain or difficulty of motion of the lower limbs, the patient could lie on either side, and could sit up, and occasionally walk about the ward, though the power of exertion and motion was necessarily much restricted by general debility.

The condition of the patient varied but little, from the middle of June to the latter part of July, at which time the signs of constitutional failure became more manifest and decided; the intumescence of the abdomen was sensibly augmented, accompanied by great prostration of strength, more frequency and feebleness of pulse, and some hurry and labour of respiration after efforts to move or talk; and now, for the first time, was perceived some degree of cough, which, if existing at all in the former part of her illness, was so slight as to have excited no attention on the part of the patient or her attendants.

The symptoms denoting a serious waste of the vital energies, now became every day more obvious and urgent, and the unfortunate patient sunk exhausted on the 21st of August. One circumstance, occurring in the progress of this case, has been omitted in the general description of symptoms, as deserving particular notice, from the peculiar relation which it was afterwards discovered to hold with the true nature of the principal morbid condition, disclosed by "post mortem" examination. Two or three weeks prior to the death of the patient, she complained of particular soreness and sensibility constantly present at one spot in the right iliac region, and mentioned the existence of a tumour at the point referred to as the seat of pain. On examination, an unusual prominence was evident immediately below the superior spinous process of the ilium. The tumour was small, tense, and somewhat painful to the touch, without evident marks of inflammation, communicating, on pressure, a sense of elastic resistance from fluid within; which seemed to present either directly through the tendinous fascia of the descending oblique muscle, near its lower border, or, having passed under the margin of the transversalis, to press forward the integuments, and formed a tumour over and upon the oblique fascia (POUPART's ligament,) just below the anterior superior spinous process of the ilium. The tumour was noticed as remarkable, and its resemblance to an occasional (though rare) presentation of the matter of lumbar abscess, was mentioned on its examination; but taken in connexion with the state of abdominal dropsy and general anasarca, it was thought possible that the fluid accumulated in the cavity of the abdomen might point, or present, in the manner described, in consequence of particular relaxation, or diminished resistance of the walls of the abdomen at that point. On subsequent inspection of the tumour, the fact that it was equally prominent, tense, and resisting in every position of the body, was noticed, as indicating the probability of an encysted state of the fluid pointing at that part, with such adhesions to the abdominal muscles within, that the latter had become involved as part of the sac or cyst in front, and the external tumour thus formed or presented from the continual gravitation of the fluid in that direction.

Dissection.—On raising the external oblique muscle from the spine of the ilium, and dissecting the fascia towards the pubis, an opening was made into the cavity of the tumour, just described, from which purulent matter flowed in a full stream; and it was now evident that the tumour had constituted the depending and prominent point of a great abscess. From the diseased state of the parts at which the matter passed out, it was difficult to determine the exact, original point of its escape.

A ragged opening, large enough to admit a finger, communicated, at the time of dissecting, with the sheath of the femoral vessels; so that the artery, nerve, and vein, lay on the pubal side of the sinus, or track, through which the matter presented externally; the edge or border of POUPART's ligament was somewhat indented or wasted away, by ulceration, near its pubic attachment: a quantity of matter had passed down by the sides of the femoral vessels, towards the insertion of the psoas and iliacus muscles. It seems probable that the matter first passed out below the margin of the transversalis, on the external or iliac side of the femoral vessels, and afterwards communicated directly with the sheath of those vessels by ulceration of the intervening iliac fascia, and cellular substance. The copious flow of matter, and the direction whence it issued, disclosed the existence of lumbar abscess; and upon slitting up the abdominal walls, a large cyst or sac was discovered, occupying the whole of the right iliac region or cavity, and extending from the deepest concave surface of the loins, to which the sac was firmly attached, down to its outlet at the top of the thigh. The sac was rounded and prominent in front; and, before part of the matter had escaped from the opening made in dissection, the sac must have presented a somewhat regular tumour, occupying the whole iliac, and part of the abdominal space of the right side.

When the sac of the abscess was partly slit up from the opening at the groin, it was discovered that there were two separate and distinct abscesses; one directly over and upon the other; each having its own proper cyst without any communication between the two. The inferior abscess, being emptied of pus, presented a cavity extending from the top of the thigh to the crus of the diaphragm, with some few bands or tendinous slips (the remains of the wasted psoas) standing across the cavity. The hollow space (bed of the abscess) was also traversed by an irregular net of blood-vessels, and by the nerves from the lumbar vertebræ, which run across the iliac region, to be distributed as the superficial or cutaneous nerves of the front and outside of the thigh. On all those vessels and nerves running through the abscess, a good deal of rough, flocculent deposit had formed, giving them a thickened and rough appearance. The lumbar vertebræ, within the limits of the abscess, were not obviously diseased, farther than by the signs of chronic inflammation of the periosteum and ligaments; that is, the bodies of the vertebræ were not affected by caries, but the transverse processes of two of the vertebræ were rough and bare at the points, and broke down easily on pressure.

The matter of this abscess was of a uniform, pale yellow or straw colour, consistent, inodorous, without any loose flocculent masses, or coagula of blood; in short, nearly the pure homogeneous fluid of common suppuration: the quantity, perhaps three pints.

The superior abscess, the separate cyst or sac of matter lying above and upon the head of the other, (the true lumbar abscess,) contained two or three pounds of greenish-yellow pus, perfectly homogeneous; its situation and character were considered very remarkable and of difficult explanation, until the question was asked by a gentleman present at the dissection, "What has become of the right kidney?" It was then obvious enough, that this superior distinct sac of matter, was the right kidney, degenerated into an abscess; the outlines of the sac still preserved distinctly the kidney form; the whole interior structure of the gland was melted down, and the sac or cyst formed of the thickened "tunica propia" of the kidney and the reflected peritoneum, united by adhesion. The cyst was easily separable into two laminæ, corresponding with those two coverings, and was united, over its whole inferior surface, with the sac of the true lumbar abscess, on which it lies. The interior of the sac was very smooth, and presented three separate "sacculi" or cavities, apparently dilatations of the cells, (botylæ, infundibula,) in which the "tubuli uriniferi" terminated. That this abscess commenced in the centre of the kidney, and was formed in the manner suggested, was rendered probable, also, by an examination of the left kidney; which was greatly enlarged, and exhibited a small quantity of matter deposited in the cells, behind the pelvis.

Besides the very extensive abscess existing in this case, dissection disclosed a variety and extent of morbid degeneracy seldom occurring in the same subject, and calculated to excite astonishment that life could be so long maintained amidst such extensive impair and ruin of so many and so important structures. It will be remembered, that this case was regarded and treated as one of chronic visceral derangement of the liver, spleen, &c., complicated with abdominal dropsy. On opening the peritoneal cavity, it was found filled with the common serous infusion, constituting dropsy of the abdomen. The liver was greatly enlarged, of a dark chocolate colour, with numerous bands of firm adhesion to the diaphragm, spleen, stomach, &c.; the convex surface of the liver was studded with dense patches of effused lymph, and some vesicles containing serum; its interior structure, dense, and very hard from great congestion. There was no appearance of abscess.

The spleen was enlarged to a very great size, with many strong adhesions to the diaphragm and adjacent viscera; like the spleen, it was very dark, and formed a dense firm mass throughout: the long axis of the spleen presented down the iliac region, its inferior extremity approaching the crest of the ilium.

The kidney of the left side, it has already been remarked, was greatly enlarged, and its tendency to abscess was manifested, by a small collection of matter in its ducts near the pelvis.

When the thorax was opened, the pericardium presented itself distended by fluid, (hydrops pericardii,) containing, by conjecture, more than a pint of water. The heart was of large size, but apparently sound: its interior was not examined.

The sac of the pleura, on the left side, was filled with water; (hydrothorax of the pleura pulmonalis;) and when cut open, the interior of the sac was studded with productions or points, very white, much resembling those of the papillæ seen, after maceration, on the villous coat of the stomach of brutes. Many of the eminences within the sac of the pleura, were half an inch in length; on its external (costo-lateral) surface, the sac adhered firmly to the pleura costalis, and the latter throughout the ribs and intercostal muscles.

The left lung, lying macerated in water, was so wasted, thin, and changed, as to present little appearance of pulmonary structure when drawn out of its sac; its posterior part, near the root, presented something of the pulmonary cellular, or tubular character, and when cut into in many places, pus oozed out freely from every point; not from cysts, abscesses, or tubercles, of which there was no appearance, but from all the divided cells, or tubuli of the lungs.

The right pleural sac contained no water; the lung, rather small, exhibited externally nearly the natural appearance. When cut open in various places, matter flowed out of the divided cells or tubes, as from the diseased lung on the left side. The dissection was prosecuted no farther.

Many features of this case seem extraordinary, when viewed in connexion with the circumstances displayed by dissection. That both a great lumbar and renal abscess should exist with so partial signs of such extensive organic destruction, is very remarkable. Neither the frequent chills, the deep seated pain of the loins, the great numbness at the top of the thigh, with immobility of the limb, which are described as characteristic of the formation of lumbar abscess, attended the disease in the present instance in any appreciable degree. Except the pain and swelling about the hip, of two or three days' continuance, the patient complained of no pain so great as to cause particular inconvenience. The back was not referred to as particularly painful; and throughout her illness, she possessed the use and movements of the right limb equally with the left, notwithstanding the psoas and iliac muscles were wasted by suppuration. It is possible, and indeed probable, from the extensive destruction of the parts, that both abscesses had formed prior to the admission of the patient into the Alms House; hence the signs proper to the early or forming state, had passed by. Still it is surprising that such abscesses, in their more chronic state, should have involved so little distress of feeling, or loss of power and motion, in the parts affected by the disease; and equally strange, that the constitution should have manifested such partial and tardy sympathy with such serious devastation of structure.

It may be farther remarked, that the character of this abscess was somewhat peculiar in regard to the quality of the contained fluid. The matter was a uniform, consistent pus, without either the flocculent, curd-like masses, or the coagula of blood which generally abound in lumbar abscesses. The tumour in the groin in this case, by the gravitation of the matter, did not at all recede in the recumbent posture of the patient, and could only be partially diminished by firm pressure. This, perhaps, in the present instance, was partly the effect of pressure on the abscess by the water in the peritoneal cavity; but in all cases of psoas abscess, which I have seen presenting at the same point, i. e. near the spine of the ilium, the external tumour remained the same in all postures, and could scarcely be repressed. This fact is opposed to the assertion of writers, that a recession of the tumour in the recumbent posture furnishes an important diagnosis in lumbar abscess.

The sense of oppression, difficult respiration, and inability of lying fully recumbent, which are said to distinguish hydrothoracic affections, were wholly absent in this case. Although the patient laboured under the formidable complication of dropsy, both of the pericardium and of the sac of the pleura, she could lie equally well in every posture, and her breathing was free from any peculiar embarrassment until almost the last moments of her life: and notwithstanding one lung was nearly annihilated, and the other greatly diseased, a slight occasional cough was the only indication of pneumonic affection. Upon the whole, it may be said, that this case strongly illustrates the difficulty of detecting, during life, the exact seat, nature, and extent of visceral disease. The rules of diagnosis furnished by writers for the discrimination of such affections, were nearly all contradicted by the facts disclosed by dissection in the present instance.

This case establishes a question in pathology, which has been the subject of some controversy and discussion; it proves the possibility of purulent collections in the lungs, independent of true abscess formations; for purulent matter abounded in every part of the lungs, yet there was no appearance of vomicæ, suppurating cysts, or tuberculous degeneration; as the matter flowed from the common cells or bronchial ramifications.

The diseased kidney described in the foregoing account, is in the possession of Robert Macky Dunbar, formerly of the Baltimore Alms House, and now a student in this city. The history is communicated to us with the concurrence of Dr. Wright.

Editors.

Article VI.—*Case of Gouty Inflammation cured by Vaccination over the diseased part.* By D. Theodore Coxe, M. D.

As every thing connected with *Vaccination* has lately been considered of importance, and as even isolated facts may tend to fix the still unsettled state of public opinion in regard to many of its phenomena, I record the following case as interesting in several respects.

A lady of hereditary gouty diathesis had been inoculated for the small pox some fifty years ago, and suffered so severely from the disease, that her life was several times despaired of; she eventually, however, recovered at the expense of a pretty considerable pitting, and the scar upon the inoculated spot is nearly the size of a quarter of a dollar. Some time since, I was requested by her to vaccinate her servant girl, which I did, and successfully. She was herself labouring at this time under a severe attack of *gout* in her right wrist, which was swollen and extremely painful, her system being feverish, &c. I inserted, with her permission, a portion of the virus into the affected part, with the view of ascertaining whether she could take the vaccine disease, and if so, what effects it would produce upon the gout. Somewhat to my surprise, and greatly to my satisfaction, she not only had the genuine disease, but the swelling and pain immediately left her arm; and long before the scab (which by the way was *green*) had dropped off, she was as well and as comfortable as she had ever been in her life. Several physicians and students of medicine requested and obtained a sight of the arm, and all acknowledged it to be an interesting case. The cicatrix remaining is of the genuine, porous kind.

ARTICLE VII.—*Description of a disease which occurred in the Pennsylvania Institution for the Deaf and Dumb.* By G. B. WOOD, M. D., Physician to that Institution.

IN the spring of the year 1824, a complaint prevailed among the children of the Pennsylvania Institution for the Deaf and Dumb, which, in the circumstances of its origin, and the character of its symptoms, presents some considerations that render it, perhaps, not unworthy of being recorded.

At that time, the institution was situated in a building, which, though as well adapted to the purpose as any then attainable, was, however, quite inadequate to the comfortable accommodation of so large a family. The lodging rooms were small and incapable of proper ventilation; and their insufficient number rendered it necessary that each of them should be occupied by at least four of the children. The yard also was inconveniently small; and the scholars, therefore, as they could not be permitted to ramble unattended through the streets of the city, were deprived, in great measure, of that vigorous exercise, which, in the young subject, is peculiarly requisite for the production of firm health and strength of constitution. This inconvenience operated with more than usual disadvantage upon the children who were thus necessarily confined; for, coming, as they chiefly did, from the country, and most of them from situations in life which exposed them to much bodily exercise, they felt the effects not only of the absence of this essential stimulus, but of its deprivation.

To the debilitating influence of confinement upon their constitutions it is probably attributable, that among the inmates of the institution for the deaf and dumb, during the time they occupied this situation, a larger proportion than ordinary became the subjects of disease. In the same way we may account for the fact, that their complaints were seldom accompanied with a very high degree of excitement. Protracted remittents of the typhoid character, and disorders dependent upon derangement of the digestive organs, were of frequent occurrence; and, generally speaking, the inflammatory diseases which made their appearance, required a less active course of depletion than among children of the same age under ordinary circumstances.

At the time of the occurrence of the complaint which forms the subject of this paper, a peculiarly disagreeable and unhealthy condition of the house was added to its more permanent inconveniences. The privy had been formed by simply partitioning off a portion of the cellar; and its contents, which had been accumulating for a long time, were supported on one side altogether by a feeble wall of brick. Through this they had, by their pressure, forced a passage, and inundated, of consequence, the neighbouring parts of the cellar. The air of the whole house was thus contaminated; and its offensiveness was immediately perceived upon entering the outer door.

The appearance of the disease was preceded by a long spell of unusually warm, damp, and close weather; which had the double effect of rendering the exhalations of the privy more active, and of diminishing, by its own immediate operation, the energies of the system. So warm was the atmosphere, and so fully saturated with moisture, that, on passing into the streets, a sensation was experienced almost equal to that produced by entering a vapour bath. This weather would have operated injuriously on the health, under the most favourable circumstances; how much more so when combined with noxious effluvia, and acting upon constitutions which other causes had prepared for the reception of disease! Accordingly, cases were observed in the city, analogous to those which occurred in the institution: but while the former were few and scattered, the latter amounted to more than half the number of the scholars. There were, in all, about sixty inmates, including teachers, pupils, and servants; and of these, at least thirty were more or less severely affected.

The subjects of the disease were of various ages, from little beyond infancy to middle life; but, among the adults, the proportion of cases was much smaller than among the children, owing, probably, in part, to the greater susceptibility of the latter class, but chiefly to their more frequent and longer exposure to the morbific cause; for, while the teachers, matron, and servants were lodged in the upper chambers of the main edifice, and consequently, as far as possible from the source of the effluvia, the pupils were necessarily placed in a range of apartments so situated, as to render the exclusion of the noxious air of the cellar impracticable.

Though the symptoms in the different cases were such as clearly to indicate an identity of nature in the disease, yet in the degree of violence there was much diversity; and a gradation was observable, from the mildest affection, scarcely attracting notice, and demanding little or no medical interference, up to the severest and most alarming.

The general character of the complaint was that of fever, with more or less inflammatory determination to the chest. In its moderate form, it began with chilliness, and those other symptoms which usually usher in a slight febrile paroxysm. Then came heat of skin, accelerated pulse, loss of appetite, and moderate head-ache; accompanied, after a short time, with cough and expectoration, but without coryza, or any affection of the nostrils or throat, such as ordinarily marks the commencement of catarrh. In these cases, the patients, though not confined to bed, exhibited much languor and listlessness, with a total indisposition to exertion, either mental or bodily, lying about on the chairs and benches, and paying little or no attention to affairs going on about them. In less than a week, the fever generally disappeared, leaving behind it no other trace of the complaint than a loose cough; which, in most instances, subsided spontaneously, or readily yielded to very gentle treatment.

The severe cases uniformly commenced with a distinct chill; and the febrile re-action which ensued, was often considerable and distressing. The pectoral affection, however, was not immediately experienced. At first, indeed, the case might have been mistaken for a common remittent; but generally, before the conclusion of the second day, sometimes so early as within the first, the patient began to complain of uneasiness in his breast or side, which, with the severe cough that accompanied it, afterwards became the prominent feature of the complaint. The cough was marked, at its very commencement, with free expectoration. The matter discharged varied with the force, type, and period of the disorder. In the more active cases of inflammation, it was at first almost pure blood, of a bright, florid colour; in those which exhibited a disposition to run into a low state, though still evidently sanguineous, it was dark and apparently decomposed; when the symptoms were milder, it consisted chiefly of mucus more or less tinged with blood. During the progress of the disease, the expectoration gradually changed its character; becoming first of a brownish or chocolate colour, then gradually lighter, and ultimately of a yellowish-white, in which state it was considered as a mark of approaching convalescence. In its varying appearance, it afforded one of our best prognostics, and was always carefully examined.

The sensation in the breast did not appear to be the acute pain of pleuritis or pneumonia; but rather that general uneasiness, stricture, and oppression, which indicate an inflammation, less of the pleura or substance of the lungs, than of the mucous tissue of the bronchia. It was sometimes exceedingly distressing, attended with a hurried or laboured respiration, and great general restlessness. Occasionally, however, sudden and severe pains, resembling those of violent pleurisy, would shoot through the sides, and up to the shoulders, so exceedingly acute, that the patient, though dumb, would scream out as if under the knife of a surgeon. But they were evidently neuralgic, and seated not within the cavity of the chest, but in the muscles exterior to it; for they were sometimes observed to extend to the small of the back, and in more than one instance attacked the extremities. They moreover occurred at all periods of the complaint, after as well as before depletion; were seldom speedily or effectually relieved by bleeding, but always gave way to the internal use of opium and ipecacuanha, combined with the application of external irritants, as hot spirits of turpentine, or mustard, to the part affected.

There was always more or less disorder in the alimentary canal and its appendages. In some instances, the stomach was exceedingly irritable, throwing up bilious matter in considerable quantities, and of various shades of colour. The alvine evacuations were, without exception, of an unhealthy character, being dark coloured and offensive. In one or two cases they resembled in consistence the black stools of fatal yellow fever; in others, they were comparable to nothing so exactly as the mould from decayed leaves, which is often to be seen in the waters of low wooded grounds; in others again, they were a uniform liquid, like molasses and water. Their return to a natural condition, was hailed as a favourable occurrence, though not always a signal of immediate relief to the patient.

The febrile symptoms continued, with various intensity, throughout the complaint. The pulse, always frequent, was seldom possessed of much tension. The tongue was covered with a coat of fur; which was sometimes thin and white, sometimes thick with a tinge of yellow, sometimes of a brownish colour, and in a few cases, dry and dark, as in typhus. Delirium, and severe pain in the head, though not frequent, were of occasional occurrence; and in one case, the local affection appeared to have been transferred altogether from the lungs to the brain. The delirium usually characterized by muttering, attended the typhous form, into which the complaint sometimes degenerated. In these little mutes, however, no motion of the lips, nor sound of the voice, was observable; the wandering of the mind, and the debility of intellect, were marked by feeble attempts to spell in their usual way by manual signs, while one accustomed to their motions, might readily perceive, that their words were frequently but half formed, and with little or no mutual dependence, like the muttered sounds which escape those who, in a similar condition of the system, have the faculty of articulation. The fever was generally attended with exacerbations and remissions, similar to those of our autumnal endemic; and in a few instances in which it survived the local affection for several days, it was not distinguishable from an ordinary remittent. The duration of the complaint, in its severer forms, was never less than a week, often extended to two or three weeks, and once, at least, exceeded a month.

As to its nature, a few words will embrace all that need be said. The more violent cases bore, in their general aspect, a strong resemblance to that form of pectoral inflammation, which is usually known by the name of *bilious pleurisy*, or of *bilious pneumonia*, or in its low type, of *typhoid pneumonia*. There were, however, several peculiarities. The early occurrence of free expectoration, and the nature of the local sensations, which, except in the instances of muscular pain before alluded to, were seldom very acute, pointed to the mucous tissue of the bronchia, as the principal seat of the inflammatory action; nor do I believe, that either the substance of the lungs, or their investing membrane, was *materially* affected. It is true, that among the inmates of the asylum, I had no opportunity of verifying my opinion by the evidence of dissection; for happily the cases were all brought to a favourable termination; but about the same period, an instance of disease very similar in its character, came under my notice out of the institution; which, being complicated with the morbid tendencies of the puerperal state, resisted the means of cure that were employed, and gave me a chance of inspecting the condition of the lungs after death. The pleura, in this case, exhibited no vestiges of recent inflammation; a portion of one lobe of the lungs appeared to be the seat of sanguineous engorgement, without ulceration, suppuration, or change of structure; but the evidences of a severe bronchitis were presented, as well in the suffused appearance of the mucous membrane, as in the abundant yellowish secretion which filled the tubes themselves. But, whether the pectoral affection was simple bronchitis, or bronchitis complicated with pulmonary inflammation, this much seemed to be certain, that it was a mere accessary to the complaint, and did not constitute its basis, or its essence. For, independently of the fact, that in two cases, the inflammation took other directions, in one, to the head, in the other, to the bowels, it was proved to be altogether secondary by the precedence, for more than twenty-four hours, of the febrile symptoms. The disease appeared to me to be idiopathic fever of the remittent character, arising from miasmata generated within the building, and complicated with bronchial inflammation; the result probably of a predisposition of body derived from the peculiar condition of the atmosphere. I am aware, that in advancing this opinion, I am subjecting myself to the derision of the omniscient modern French school of medicine; which, in the antecedent fever, would perceive a simple gastritis, or gastro-enteritis, and in the affection of the chest, a very natural extension of inflammation from the mucous lining of the alimentary canal, to the analogous structure in the bronchia. My vision, however, has not yet become so clear; and I still continue to consider our ordinary fevers as a complication of disordered actions, probably commencing in the nervous system, but depending as little upon the accompanying irritation of the stomach, as upon the equally constant derangement in the cerebral, the circulatory, the cutaneous, or the general secretory function. But as this paper was intended to be practical, I shall omit further speculation, and proceed to a detail of the treatment.

It is here proper to remark, that in the management of these cases, every facility was presented, and all auxiliary means afforded, which the practitioner could possibly desire. The disease was usually seen and encountered in its incipient stage; every measure proposed was carried fully and faithfully into effect, and the general comfort of the children watched over by the matron, with a care and tenderness which were equalled only by her diligence or skill as a nurse; the patients themselves, taught to place the most unbounded confidence in those to whose charge they were committed, not only submitted without a murmur to whatever was deemed adviseable in the way of remedy or restriction, but exercised a faith in the efficacy of the means employed, which, probably, contributed to insure their favourable influence. Another advantage of no little value was possessed in the assistance of my friend Dr. EMLEN; who being associated with me in the medical superintendence of the institution, though the present was not his term of attendance, cheerfully afforded his counsel in consultation.

In the severer cases we uniformly began the treatment by the administration of an active emetic, composed generally of ipecacuanha and tartarized antimony. This was immediately followed by a cathartic of calomel, either combined with rhubarb or jalap at the time of its exhibition, or carried through the bowels by large doses of senna and epsom salts, given a few hours afterward. The primæ viæ were thus cleared of foul and irritating accumulations; and a general impression was made, which, if it did not arrest the disease, appeared to moderate its violence, and to give a check in the outset, which was felt during its whole future progress. The practice was peculiarly beneficial in cases of disorder of the stomach, dependent upon the presence of great quantities of vitiated bile. The nausea was generally quieted; and articles subsequently prescribed were taken without disgust, and retained without difficulty.

As soon as pain began to be felt in the chest, blood-letting was resorted to; and the operation was repeated once, twice, or even more frequently, as the symptoms seemed to require: but in no case would the system support very free evacuation in this way. In general not more than six, eight, or ten ounces could be withdrawn at once, without inducing depression of the pulse, faintness, and great prostration of strength. The blood, however, upon its coagulation, exhibited the sizy surface and contracted edges usually associated with high inflammation; and its abstraction was followed by speedy, and often very great relief to the patient. In connexion with the lancet, cups or leeches to the sides, or breast, or back, were employed with manifest advantage. Blisters were also applied freely over the parts affected, and rarely without more or less benefit. In the use of this last remedy, we did not feel ourselves bound to wait till the inflammation had, in great measure, yielded to the influence of depletion. We regarded it as an auxiliary to be brought early into the conflict, not merely as a reserve for the completion of victory, nor as a last resource against defeat. The impression produced by one general, and one local bleeding, was usually followed up by a blister; and if the surface healed before the disease had entirely given way, no delay was allowed in recurring to the remedy. Nor was any difficulty experienced in applying cups or leeches, if requisite, after the epispastic. If the anterior surface of the chest was under the effect of the latter, the back and shoulders afforded to the former perhaps as near an approach to the seat of the inflammation.

The internal treatment, after the administration of the emetic and cathartic, was directed chiefly to the restoration of healthy hepatic action, and to the removal from the bowels of the disordered and irritating secretions which continued to be poured into them. For this double purpose, calomel in small doses was alternated with mild, but efficient cathartics. In some cases the mercurial was given at intervals during one day, and purgatives the next; in others the alternation was allowed to occupy only twenty-four hours, calomel being prescribed in the evening, and followed up by the cathartic in the morning. The articles employed were chiefly senna, epsom salts, and rhubarb; the two first being generally directed during the period of highest action, the last when the system began to flag, and very free evacuations were not admissible. In cases of irritable stomach, the calomel was given in doses of one quarter or one-sixth of a grain, repeated every half hour or hour, till the requisite quantity was taken; and the bowels were opened by the seidlitz powder, decidedly the most pleasant form in which cathartic medicine can be administered to a patient affected with sickness or vomiting.

During the continuance of this plan, other indications were not neglected. As the fever, though never entirely absent, was paroxysmal, those remedies were prescribed which experience has shown to be most effectual in bringing about a solution of the paroxysm. The mild saline diaphoretics, such as the acetate of ammonia, and the citrate of potash, either neutral, or in the state of effervescence, were given freely; and when the skin was hot and arid, their operation was promoted by ablutions with cool water, either alone, or mixed with vinegar or brandy.

Severe muscular pains, and great general restlessness, were remedied by combining opium and ipecacuanha with the calomel; nor were any injurious effects observed to arise from this plan, when adapted to the state of action existing at the time. On the contrary, the determination to the skin thus produced was found useful, not only for the objects above mentioned, but also in moderating the force of the internal disease. It was our endeavour, as far as was consistent with other indications, so to administer the opiate, as that its influence might be felt during the night, and thus, in connexion with the natural tendencies of the system, might procure a period of refreshing sleep.

By a steady pursuance of these measures, with others of a less important character, suggested by temporary symptoms, the complaint generally began to exhibit signs of amendment in the course of a week from its commencement. Under the influence of the alterative course of mercury, the alvine evacuations became natural in colour and consistence; and when the gums appeared to be slightly touched, an effect which was for the most part aimed at, the bronchial secretion exhibited, in almost every instance, a very favourable change. With the improvement of the secretions, the other morbid affections were generally moderated or ceased altogether; and in less than two weeks the patient was usually pronounced convalescent.

But in a very few cases, before this end was attained, the system had sunk down into a typhous condition, requiring the support of stimulating treatment. The symptoms which marked this state were a very quick, hurried respiration, with little or no pain; a frequent, weak pulse; a brown tongue; a cool skin, and much general restlessness and distress. Wine whey and the volatile alkali were found to afford speedy relief; and in one case, where these failed, the spirits of turpentine was administered with success. The diet, which had before been confined to mucilaginous, farinaceous, or acidulous drinks, was now rendered more stimulating by the addition of calf's foot jelly, eggs beat up with wine and water, animal broths, and other nourishing articles of food. In the practice of using highly nutritious aliment in cases of typhous disease, requiring a stimulating treatment, I follow in the steps of my respected preceptor, Dr. Parrish, whose experience and success impart great authority to his example. I know that by many physicians the liberal use of food in such states of the system is considered rather injurious than beneficial; as the stomach, they say, is incapable of digesting the matters introduced into it, and must therefore itself suffer from their irritating effects, instead of converting them into the means of strength to the body. But this objection appears to me to be grounded on an incorrect and hypothetical assumption: for, so far as my observation has extended, the stomach possesses strong digestive powers even in states of great bodily prostration. At least, I have seldom discovered in the stools, the food that, in cases of typhus fever, I have directed to be given to the patient; and in the strengthened pulse, and increased general vigour which have ensued a few hours after it has been taken, I have been accustomed to see evidences of its beneficial operation.

It has been stated, in a previous part of the paper, that the fever, in a few cases, remained for several days after the disease of the chest had been subdued. Continuing to retain the remittent form, it was treated during the paroxysms with mild diaphoretics, and in the remission, which approached very nearly to a complete apyrexia, with tonic vegetable infusions.

Perhaps, in thinking the above details worthy of being presented to the medical public, I have been led away by that very natural feeling which induces us to attach undue importance to occurrences in which we have been personally concerned. It appears to me, however, that insulated cases of unusual disease have attracted too much attention in our journals, to the exclusion of those more ordinary complaints by which death, in all climates, and in almost every situation, makes his inroads. The fact that these are not always curable by our present modes of treatment, should stimulate us to inquire, with the utmost diligence and minuteness, into the various circumstances which modify their nature and production; so that, understanding them more accurately, we may be prepared to combat them with greater effect, it already formed, or to crush them with more certainty while yet in embryo. The only new light which the author can have any claim to have thrown upon the subject of disease by the present essay, arises from the nature of the complaint he has described, taken in connexion with the circumstances under which it originated. These have been already detailed. It may not, however, be amiss to repeat the expression of his conviction, that the modification of morbid action observable in these cases, was owing to the combined operation of an unusually warm atmosphere overloaded with moisture, and the noxious exhalations generated in a confined and filthy situation. In the following spring, that of 1825, a similar affection occurred among the inmates of the asylum. At this time, however, only fourteen cases occurred; the symptoms were generally of a milder character, and the tendency to run down into the typhous condition was much less observable than on the former occasion. The treatment was similar, and attended with the same uniform success. A short period of warm, damp weather, in this instance, also preceded the disease; and the mansion, though much pains had been taken to render it clean and comfortable, was still partially subject to the same inconveniences. If the relative violence of the complaint on the two occasions, be compared with the relative intensity of the assumed causes, the idea of the necessary connexion between them will acquire additional confirmation. Before the spring of 1826, the institution was removed into an elegant, spacious, and most commodious building, erected for its use in the confines of the city, in an airy and healthy spot. As might have been expected, the children passed through this season without any attack of the complaint; and having space in their new home for the ordinary playful exercises of youth, have enjoyed, ever since their removal, a general healthfulness, which has known but few and very slight interruptions.

ARTICLE VIII.—*Cases illustrative of the Curative Effects of copious and long-continued Affusions of Cold Water in External Inflammations. In a letter from* L. S. TILLET, M. D., of Lancaster, Pennsylvania, to the EDITORS.

GENTLEMEN,—I send you a few cases, illustrative of the beneficial effects of cold water in violent inflammations of the extremities, following fractures, wounds, and other injuries. They occurred in the practice, and the most interesting one in the person, of Dr. ———, through whose kindness I am permitted to make them public.

In the early part of his life, this gentleman had been afflicted with a white swelling of the knee joint, from which he had the good fortune to escape with an anchylosis; which, while it occasioned him some little inconvenience, in no degree incapacitated him for a faithful discharge of his professional duties, during a period of more than twenty years. In descending the steps of his house, some time since, he unfortunately slipped, and, the heel of the anchylosed limb meeting with the projecting point of a stone, which was firmly fixed in the earth, a fracture took place at the knee joint, and the leg was doubled beneath him. With the assistance of a friend, the parts were replaced as nearly as possible in their original situation; and having been removed into the house, medical assistance was immediately procured: it was to little purpose, however, as, notwithstanding the excruciating pain which he suffered, he had already determined on the treatment to be pursued. Convinced, by long experience, of the utility of cold applications, in cases of this nature, he resolved to confide his life to them alone; and, throughout his whole confinement, pertinaciously refused to submit to venesection, or to take purgative medicine, in sufficient quantity to do more than maintain the regular peristaltic action of the intestines. Indeed, his great size, and the exquisite pain attendant upon the least motion, limited his friends to the exhibition of mild laxatives only. By this time the knee had become much swollen, and it was evident that whatever plan was adopted must be vigorously pursued: the leg was extended upon a pillow, no dressings of any kind applied; and the coldest water that could be procured, was poured upon the naked limb, at first, almost constantly, and afterwards, as the inflammation subsided, in quantity of a pint every five and ten minutes *for three weeks.* At the expiration of this period, having been removed to a dry bed, and almost exhausted by the continued state of submersion, in which he had been for so long a time, he resolved to try the effect of cloths *moderately wet* with a solution of the acetate of lead, &c. In less than three hours, a most marked difference had taken place in the state of the limb; the inflammation had greatly increased; the pain had become almost insupportable, shooting upwards to the body, and downwards to the foot. A vesicle, five lines in diameter, containing a yellowish serum, made its appearance on the superior part of the joint, and every symptom, in short, bore evidence of the impending danger. No time was to be lost; cold water was instantly had recourse to, in quantity as great as in the first instance, and with the same salutary consequences. . The inflammation again subsided, with a consequent diminution of pain; the vesicle became shrivelled, from an absorption of its contents, and ultimately disappeared altogether. A continuance of this plan, proportioned to the degree of inflammation, for three weeks longer, effected a complete cure; and, in eight weeks from the occurrence of the accident, he was able to walk with the assistance of crutches.

A more unequivocal proof of the powerful agency of cold water, than this case affords, cannot be desired. The patient was extremely corpulent, weighing upwards of *three hundred pounds.* The inflammatory action ran so high, that the water would rise from the limb in vapour. The accident occurred in the month of August; and, with the exception of a very abstemious diet, there was no other remedy employed. It may be said, perhaps, that general and local depletion vigorously pursued, would have been attended with a like beneficial result; but to the former, the prejudices of the patient opposed an insuperable objection, and besides that, in the country, and at a distance from any considerable town, (as was the case in this instance,) leeches cannot always be procured, there is great reason to think, that they would have been totally inadequate to subdue the violent inflammation which existed here, and which, upon a mere relaxation of the treatment, at the expiration of three weeks, threatened the life of the patient.

Another instance, in which the same remedy was successfully employed, communicated to me by the gentleman whose case I have just related, is little less remarkable, inasmuch as it is a case for which, not many years ago, amputation would have been deemed necessary. A woman, jumping out of a wagon, the horses of which were unruly, dislocated the tibia at the ankle; the bone protruded through the integuments, and penetrated the earth to some distance. The dislocation was reduced by a surgeon who happened to be near at the time; and, the day following, the woman having been conveyed to her house, Dr. ——— was sent for. He found the leg much swollen and inflamed, and the patient in great agony. Cold water was instantly applied, and with the most salutary consequences. In five weeks the patient was able to walk about the house; though, from the nature of the injury, the joint was affected for some time after, with a considerable degree of stiffness. I could adduce many instances of compound fractures, in which the free employment of this remedy was attended with a like happy result. Among others, one which occurred in my own practice, in which both the bones of the leg were fractured, and the integuments much lacerated, the patient being at the time in a state of inebriety. The inflammation was restrained within due limits, and, although from the injury done to the integuments, union by the first intention did not take place, the cure progressed without a single unpleasant symptom. But enough has surely been said to prove, that cold, *properly* applied, is possessed of much higher remedial power than has hitherto been attributed to it. I say *properly*, because the usual manner in which it is employed, by means of cloths wet with a solution of acetate of lead and other substances, removed as often as they become dry by evaporation, is productive of comparatively little advantage; it may be useful in mild cases, but, in the more violent grades of inflammation, must be altogether nugatory: here a more vigorous treatment is demanded; the coldest spring or well water should be procured, or, if necessary, it may be cooled artificially, and the limb be kept constantly bathed in it, until the morbid excitement be reduced; and this, I hesitate not to say, in a constitution otherwise healthy, will be the almost necessary consequence of the employment of cold water to the extent I have recommended. I wish to speak the more earnestly on this subject, because I think I have observed, in country practice more especially, many unpleasant consequences to follow from a want of correct ideas in relation to the remedy, which it is the object of this paper to introduce more particularly to the notice of the profession. In the country, as I before stated, leeches cannot always be had, the application of the scarificator may be frequently inconvenient and sometimes impossible; and general depletion, unassisted by local treatment, will often prove ineffectual; while, in cold water, we have a remedy, abundantly found throughout the whole of our widely extended country, and possessed of virtues which should long ago have attracted to it much more attention than it has hitherto received. In our cities also, I am convinced, its employment might be very beneficially extended. Gangrene, consequent upon violent inflammation, though by no means of such frequent occurrence as formerly, is still met with sufficiently often, to call forth all our exertions for its prevention; and I am acquainted with no remedy, better calculated to produce such an effect, than the one which I have recommended. The present treatment of such cases, appears to me, to be particularly faulty. A patient, for example, is brought into one of our hospitals, with a large lacerated wound of one of the extremities: the surgeon immediately perceives that union by the first intention, is, in many cases, impracticable, and that suppuration is the next most desirable termination; to promote which, a warm poultice of bread and milk, or some other emollient substances, is immediately applied. It is true, that, if the inflammation transcend, as is almost always the case, the degree requisite for the formation of pus, leeches are directed, and the antiphlogistic plan, generally, is adopted; but, in some instances, this change of treatment is not made, until the inflammation has attained a height which admits of no control, and in others it would have proved inadequate from the commencement; and, even when successful, it is attended with an unnecessary loss of time, and confinement of the patient. In all such cases, I am fully convinced, that the free application of cold water would tend more effectually than any thing else, to control inflammatory action, and accelerate the cure.

In fractures, whether simple or compound, the action necessary to re-union is, I believe, very little greater than that of the ordinary healthy action of the part; and I am disposed to think, that, in most instances, the process might be much shortened, by an attention to this circumstance. A case has been related to me, upon unquestionable authority, of fracture of both bones of the leg, a little above the ankle, followed by re-union in *nine* days. The person had fallen into a well, where he lay nearly an hour before assistance could be rendered him; after being taken out, cold water was applied, as above recommended; and, upon entering the apartment on the morning of the ninth day, the physician in attendance was not a little surprised to find his patient sitting on the side of the bed, with his foot on the floor. Upon examination, the bone, though not entirely consolidated, was found sufficiently so, to admit of the abandonment of all artificial support.

Nothing has been farther from my object, in this paper, than to depreciate the value of general and local depletion, in the treatment of all inflammatory affections—they are, indeed, indispensable. I have only sought to raise from the situation of a humble auxiliary, a remedy, which some little experience has taught me, is entitled to rank as a principal.

Very respectfully, &c. L. S. TILLET.

To the Editors of the N. A. M. and S. Journal.

We are really indebted to Dr. Tillet for the above interesting and valuable paper. His results go to confirm those of several former observers; particularly of Baron Larrey. By multiplying our resources, we increase our ability to control disease. It is by the judicious selection, and often by the conjoint operation of two or more remedies, that we can ensure success.

Editors.

Article IX.—*Account of a New Form of Bronchial Disease.* By William Darrach, M. D., &c. Read before the Kappa Lambda Society.

Within the last few months, a catarrhal disease has appeared in this city, which, on examination after death, was found seated in the *bronchial tubes.*

The bronchia were filled with mucus, which was of various degrees of consistence, more or less frothy, and more or less of a yellowish colour. The lining membrane was deeply reddened;

particularly that portion of it which covers the immediate ramifications of the bifurcations of the trachea, and the membranous part of the bifurcations themselves. The colour, in three of the cases, was more brown than red.

This morbid appearance, when attentively examined by means of glasses, and, when the part has become dry and diaphanous, by the aid of transmitted light, could not be found to depend upon injected capillaries or stellated spots, such as are so commonly found in the villous coats of the stomach and intestines; a redness uniformly diffused over the surface, as a stain, is all that was observable, except in a solitary case. In this, a few ramifications and lines could be detected in the general redness of the mucous surface.

The stomach exhibited the appearance commonly supposed indicative of inflammation, but in a very slight degree; except in one case, where, on the contrary, the venous trunk and branches were all very much distended, the net-work of capillaries filled with red blood and stellated spots, and red stains were very abundant.

The symptoms which have characterized this catarrhal disease, were;

1st. *A shortness of breathing*, which was present at the commencement of the complaint, and increased daily till death. The pulse was generally small, quick, and with little more than ordinary frequency. It was considered indicative of a typhous state.

2nd. *A remarkable preservation of the intellectual faculties.* The cases differed in this respect from the usual typhus fever. Though other symptoms of an alarming nature appeared, the mind remained perfect and calm.

In some of the cases, however, the head was affected, as we commonly find it in low fever. There was severe pain, which neither local depletions nor blisters relieved, but followed by delirium, coma, subsultus tendinum, and a laborious respiration, with stertor, superadded to the characteristic shortness of breathing above noticed.

3d. *The patient remaining in a dying state an unusual length of time.* Two, three, and, in one case, four days, elapsed before the fatal termination; the body was cold, pulseless, prostrated, and motionless; the countenance collapsed and fixed, like that of death; and no power of speech and deglutition existed; yet the patient continued, conscious of his situation, to make any effort the attendants might request. He seemed to be patiently and quietly labouring under an obstructed respiration. The immediate cause of death in these cases was, evidently, the *copiousness of the mucous secretion*, which filled the ramifications of the bronchia, and prevented the access of air to the pulmonary circulation.

The morbid state of the membrane which fabricated the mucus, had, doubtless, the same *prostrating effect* on the system, that disease extensively diffused has in any other surface of the body; such as the skin, peritoneum, stomach, bladder, &c.

The treatment adopted in the cases which occurred previous to the post mortem examinations, consisted of emetics, purges, and alterative doses of mercury, together with blisters, and the ordinary stimulants.

The treatment subsequently embraced copious and frequent bleeding, local and general, and at the close, half drachm or drachm doses of the spirit of turpentine. They were equally ineffectual.

Two cases which have occurred within the last two weeks, have terminated favourably under the combined use of the digitalis, and spirit of turpentine.

In one of the cases, the treatment was commenced with a combination of calomel, tartar emetic, and ipecacuanha. The tincture of digitalis, united with that of tolu, was then given in doses of gtt x. of the former, with gtt xx. of the latter, every three hours. The pulse became slow, and the shortness of breathing ceased, after two days' continuance of the medicine. The system became prostrated, and drachm doses of the spirits of turpentine were administered. The patient soon revived.

The other case was treated with the spirit of turpentine alone. For two days, the patient's pulse could not be felt.

The above treatments were suggested by Dr. HARTSHORNE and Dr. MOORE.

It may be remarked, that the pectoral mixtures, in which the digitalis was the principal ingredient, have been found the most effectual remedies in the numerous cases of catarrh, which have been prescribed for, in the last two months, at the city dispensary.

The above cases have recalled to my mind one of an adult, examined with Dr. JACKSON, in which the same frothy mucus filled the bronchial cavities; as also, the case of a child, which died, as I supposed, of croup. On examination, the same kind of mucus was found, and the membrane was, throughout, of a brownish-red colour. A few days past, I witnessed the examination of an infant, with Dr. MEIGS; the bronchia of which were filled with a yellowish mucus, of greater consistence than that in the above described cases.

ARTICLE X.—*Case of Diseased Brain. Communicated to the Philadelphia College of Physicians, Dec. 4th,* 1827. By HENRY BOND, M. D.

CHARLOTTE BLACKSTONE died, Sunday, 19th November, 1827, aged forty years. She began to complain of pain in the head about the beginning of the preceding March. About the same time, she began to be troubled with a noise or roaring in her head, which she compared to the hum of bees. She was able to work during March and a part of April. The noise continued three months or more; but there is some uncertainty in regard to the time when the noise ceased, and when her hearing began to fail. She complained, from the first, of having very strange feelings, as well as noises, in her head, very different from any head-ach she ever had before; and often expressed her belief, that she should never recover. The pain was chiefly referred to the back part of her head; but there was never any complaint of heat in the part; and she was unable to attribute her disorder to any known cause. During nearly the whole progress of the disease, she has complained of pain in the right hypochondriac region; and has been very little affected with febrile symptoms at any period. I cannot ascertain precisely when her sight and hearing began to fail; but about the middle of August she went to a methodist camp-meeting, at which time she was able to hear loud speaking, and so much sight remained, that she was able to get about without a guide. Her appetite was variable during the spring and early part of the summer. It became more and more deficient during the latter part of summer; and, for several weeks before her death, there was scarcely any remaining. During the latter period, she would take nothing more substantial than gruel or broth, and roast apples, and preferred acidulous drinks and cold water. Her bowels were torpid during the whole progress of the disease. For two or three months before her death, she very seldom had a stool without taking a cathartic; and the discharges were dark and unnatural. During the last four weeks of her life, she had only two stools, and those were obtained by cathartics. For several weeks before her death, she would sometimes pass two or three days without urinating, at other times she urinated copiously: the fluid was as dark as coffee.

Towards the end of August, one week after her return from the camp-meeting, she began to have fits. The first was more severe than any she had afterwards. The spasms were very violent, seemed to affect one side more than the other, and lasted as much as an hour. At the time she had four or five of the first fits, she was not in the care of the sister from whom I derived most of this history, and with whom she had only one fit, which was attended with spasms. That happened on the 18th of September. When she got out of bed, she was seized with a violent tremor throughout the right half of the body; and became very rigid, with the eyes strongly rolled up and fixed. The stiffness continued about five minutes: she then became very much relaxed, and apparently lifeless, as she was not observed to breathe. At the end of about five minutes more, she came to herself, and assisted in getting into bed. She continued to have fits once, sometimes twice a day, and at other times at longer intervals, until a short time before her death. They resembled that juſt described, except that they were not attended with the violent tremors, and the other phenomena were less violent. When attacked, her head would begin to move backwards and forwards, making a nodding motion, and she would fall down, if not supported; became stiff, with her head strongly drawn back; groaned; then became relaxed, and, usually at the end of about ten minutes, came to herself. The fits seldom came on except when she got out of bed, or was in an erect posture. She could tell when one was coming on, and would ask to be laid in a horizontal posture. If the fit came on while in bed, or in a horizontal posture, they were much less violent.

Her sight had become very defective before she began to have fits; but it was totally gone, not the least sensibility to light remaining, before she had had half a dozen. Until about the time she began to have them, she retained some sensibility to light, and could distinguish very luminous objects. Gleams, or flashes of light would come across her sight, and then subside. The last of those was more vivid than usual, and was succeeded by total darkness, which never left her afterwards. This happened more than two months before her death.

When I first saw her, (September 19th,) I could discover no sensibility to sound. When I spoke loud very near her, it produced not the least apparent effect, and it is probable her hearing left her about the same time as her sight, during those early violent fits. Her friends think she lost the sense of smell earlier than those of sight or hearing. About a month before I saw her, if volatiles were applied to her nose, she said she had lost her smell, and could smell nothing. It is not known that she ever referred any pain to her eyes or ears.

She never lost the sense of taste entirely, but it was very much impaired during the last month. At what time it began to fail, is not known. During the last month, her attendant says she could not distinguish one drink from another, unless the taste of it was very intense. She could not discriminate broth from gruel, tea from coffee, or warm water from either. The catamenial secretion never failed, until the last period when it should have occurred, two weeks before her death.

From an early period of the disease, she was troubled with a rising in the throat, which continued during the summer, but was not observed in the last stages of it. It produced gagging, but no vomiting. She was often observed to be swallowing, and made a noise as if drinking. The function of deglutition remained unimpaired to the last.

She has left children, but was never heard to speak of them after the 18th of September; at which time she gave directions for the distribution of her clothes, &c. among them; and that was the day, on which she had the last fit attended with the violent tremors of the right side.

On the 27th of September, she was removed into New Jersey, five miles beyond Market Street ferry, and was carried in a wagon upon a bed, in a recumbent posture. She did not evince that the motion of the wagon hurt her head, but frequently held her hand to her right side. She had no fits during her removal. Before she lost her hearing, something had been said about placing her in the Philadelphia Alms House, which proposal was very disagreeable to her. When she was put into the wagon to be removed, she said nothing, but, by her actions, evinced an unwillingness to get into it. As soon as the wagon stood still in the ferry-boat, she wished to know if she were in the Alms House, but her sister could devise no means at the time to answer her. As soon as the wagon started from the river, she judged, from its motion, that they were in the country, and asked her how far they were going; and was told, by touching her five times, that it was five miles. From this reply she concluded, that they were going to her uncle's, and evinced some satisfaction at finding that she was not in the Alms House. She assisted herself out of the wagon, and walked into the house, only needing a guide to lean upon. She remained in her uncle's house from Thursday until Saturday of the next week, before she seemed to apprehend that any one was in it besides her sister. She asked, repeatedly, why her uncle and aunt did not come home, for they did not recollect to signify to her that they were there, by the only means of communication with her that remained. At the end of nine days, when she once more asked for them, they took her by the hand. She appeared to recognise them, spoke to them about family affairs, spoke of her severe afflictions, and particularly lamented that she was cut off from communication with them by the loss of sight and hearing. About four weeks before her death, she was brought back to the city in the same manner she was carried away. When on the way, she said she knew not where she was, or where she was going; and ever after appeared to suppose, that she was among strangers. Whether she supposed herself to be in the Alms House is not known. At the time of her return to the city, she had become very helpless in her lower extremities. She sat up from half an hour to an hour every day, until the Thursday before she died. She was, however, very helpless, and had to be taken out like an infant. It was seldom her choice to get up, or be moved, and sometimes she remonstrated against it; but her friends thought another course would be better for her. The will retained its influence over the upper extremities to the last, or very nearly so. Until two weeks before her death, she would assist in adjusting her clothes. During the last two weeks, she was not able to turn herself in bed; but if any food was put into her mouth, or offered to her, when she did not wish it, she would spit it out, and put her hand to her mouth, and resist the attempts to remove it; and this she continued to do until within twenty-four hours before her death. There was no evidence that the facial nerve ceased to perform its functions. For several weeks before that event, she very seldom spoke aloud, except when food was given, or attempts were made to move her, or when she prayed. She very generally declined taking food, during the last few weeks, and when it was urged upon her, would say, where is the use of taking it, when I am not hungry, and my stomach is full? At other times she would say, I will take some of it for the sake of peace. She prayed aloud once or more times every day, until two days before her death, and then ceased to do so, as her friends think, on account of her extreme debility. According to their representations, her prayers were short, coherent, and pertinent to her circumstances; such as did not indicate any mental alienation. The last time she was heard to speak, was about thirty-six hours before her death; she then requested the attendant, who was attempting to render her some service, to let her be quiet, for she should soon be gone and at rest.

When I first saw her, (two months before her death, and when she had entirely lost the senses of sight, hearing, and smell,) I found no external indication of any serious disorder in the system. The pulse was perhaps a little more feeble and frequent than natural: no preternatural warmth or coldness in any part of the external surface; respiration easy; tongue moist and whitish, but could hardly be said to be coated; pupils dilated, but not to a great extent. On account of the loss of her senses, I could hold no communication with her; but was told that she complained of pain in her right side, and strange feelings and pain in her head; that she was costive, and her appetite deficient. I saw her but a few times before she was removed to the country. She had no medical attendance afterwards, and I did not see her again until the morning I made the *post mortem* examination; but I am satisfied that the preceding history is accurate in every essential point.

The *post mortem examination* was made twenty-seven hours after death; in making which, I was assisted by my friend, Dr. Meigs. No appearance of disease was observed upon the dura mater, or upon the upper surface of the brain. Upon separating the hemispheres, their edges, which rest upon the corpus callosum, were found to adhere together more firmly, and the vessels about the part to be larger, and more numerous, than usual. But there was no effusion nor opacity; nothing which indicated recent inflammation. When the hemispheres were separated, so as to expose the corpus callosum, it was observed to be more convex than usual, and to press up against their inferior contiguous edges. In removing the hemispheres by sections down to the level of the corpus callosum, we observed no signs of disease. The lateral and third ventricles were pretty uniformly distended, and were supposed to contain about ℥iss. or ℥ij. of limpid water. The commissures and septum lucidum were all entire, and the distension, without disorganizing or effacing any part, had gone just far enough to present a most beautiful view of the organization of these parts. The velum interpositum had acquired, in some places, by the deposition of coagulated lymph or albumen, the thickness of one line or more. It had a milky opacity, which was observed in a slight degree in the plexus choroides. Where the lateral ventricles make the great bend into the inferior horns, numerous veins were seen, all running nearly parallel to each other, and transversely to the course of the ventricles. They all ran from the vault or ceiling of the ventricles down into the groove upon the outer or convex side of the hippocampus, but none were seen upon that body. They extended almost to the extremity of the horn. This was observed in both ventricles. Upon removing the posterior part of the corpus callosum and fornix, in order to examine the parts beneath, I opened an abscess, from which a straw-coloured, transparent fluid issued. This fluid occupied the cavity which belongs to the corpora quadrigemina, pineal gland, &c. The peduncles of the pineal gland remained, and the thalami appeared to be unaffected; but there was no trace of the gland remaining: the origin of the fourth pair of nerves was destroyed, and nothing left, which resembled the corpora quadrigemina. In place of them, we found a surface, covered with an ash-gray-coloured pus. When this was wiped off, it left a surface of the same colour, but of more consistence; and apparently made up of slight filaments and matter considerably softer than cerebral substance. This suppuration or ulceration extended beyond the corpora quadrigemina both laterally and posteriorly; and we believe, that it extended through the valve of Vieussens into the fourth ventricle, but we did not pay so much attention to that point, that we can now say that it was demonstrated.

Immediately behind the great bend of the left lateral ventricle, and upon the outside of the posterior horn, an abscess was found about the size of a marble. We discovered no communication between this and the one just described; but, when it was opened, we found the same transparent, straw-coloured fluid, and the same ash-gray pus lying upon a surface of the same colour and structure as in the other abscess. The parietes of this abscess were white cerebral substance, of very firm consistence, with no appearance of vascularity. This abscess communicated at the bottom with another, which extended under the hippocampus major of the same side, nearly its whole length, and possessed the same characters. On looking into the ventricle, this hippocampus presented no appearance of disease; but the lamina of cerebral substance, interposed between the ventricle and the abscess, was about one-tenth of an inch in thickness.

The optic nerve, on the left side, was destroyed by suppuration, for the length of an inch and a quarter from its origin in the tubercula quadrigemina. The nerve on the right side was destroyed for the space of half an inch. Wherever the suppuration had not extended, the nerve seemed full and well developed, particularly just before and behind the point of decussation: certainly there was not the least appearance of atrophy discovered in either of the optic nerves.

That part of the under surface of the cerebrum and cerebellum, which is contiguous to the pars petrosa, appeared to be softened and covered with a thin coat of common pus. We did not observe any marks of disease in the medulla oblongata. The seventh pair of cerebral nerves were enveloped in pus, in their passage from the medulla oblongata into the meatus auditorius internus, but they did not themselves appear to be diseased.

The liver was small, flabby, and very dark coloured. The gall-bladder contained about ℥ij. of bile; and the contiguous parts, instead of being stained, as usual, with a dark yellowish or greenish hue, were of an inky blackness. The small intestines were entirely empty, but the colon was considerably loaded with fœces of a very dark colour. As far as examined, there was no appearance of disease in the stomach or intestines. The patient could hardly be said to be emaciated, as the adipose matter on the abdomen was half an inch thick.

ARTICLE XI.—*Remarks on the Eruptive Disease produced by the Internal Use of Balsamum Copaibæ.* Read before the Kappa Lambda Society; by THOMAS T. HEWSON, M. D. &c.

URTICARIA has been noticed by medical writers, as frequently following the use of certain articles of food. Fish, particularly those denominated in popular language shell-fish, as the crab and lobster, when not perfectly fresh, have been often observed to induce the disease. The bitter almond, and bay leaves, which are occasionally employed in culinary processes to impart an agreeable flavour to some of the more delicate dishes, have been known in some individuals to produce this complaint. And where particular idiosyncrasy prevails, this troublesome eruption has occurred after drinking porter; owing, as is supposed, to the presence of the hop, on which the bitter flavour of that beverage depends. Every one is familiar with the occasional effects of opium; the person who has taken of that valuable drug being frequently affected with a distressing itching of the skin, but, for the most part, unattended with any efflorescence on the surface of the body. Upon consulting those who have written on the various diseases of the skin, I do not find any notice of such affections being induced by the internal use of the terebinthinate articles so frequently employed in medicine. I have therefore thought that the communication of the observations I have made, might not be uninteresting to the gentlemen of this meeting.

In July last, I visited a married lady labouring under leucorrhœa. The disease came on after the birth of an only child, which she bore in her first marriage; and had continued from that time, embracing a period of eleven years. Many physicians on the continent of Europe had been consulted, and a variety of remedies had been employed, without her having obtained any relief. These circumstances induced me to solicit an opportunity of making an examination per vaginam; and not finding any derangement in the structure of the uterus, or in the canal conducting to that organ, I entertained a hope, that she might derive benefit from the use of medicine. I directed a mixture, composed of equal parts of balsam copaiba, and the spirit of nitrous æther, (suspended in water by means of the acacia gum, and sweetened with loaf sugar,) in doses of half a drachm of the copaiba, night and morning. After having continued this medicine for about a week, this lady was attacked, in the evening, with pains in the larger joints, accompanied by some uneasiness at stomach, and soon followed by a violent itching and tingling in the skin. The next morning I found my patient greatly disfigured; all those parts of her body which were exposed, being covered with an efflorescence of a damask red colour. The spots, taken singly, might have been about three-eighths of an inch in diameter, with a slight elevation in the centre. For the most part they had coalesced in patches of an indefinite figure. The eyelids were swollen, and there was a great swelling of the face. There was likewise considerable intumescence of the hands and arms. In the course of a few days, by omitting the copaiba, and by resorting to a light diet and gentle purging, by means of the supertartrate of potash, the eruption vanished.

At first, I was disposed to view this eruption, attendant on the exhibition of the copaiba, as attributable to a peculiarity of constitution, that might not often be met with. But, not long after, a different impression was made on my mind, in consequence of a similar eruption which occurred in a gentleman under my care for gonorrhœa. In the month of September, after the puriform discharge from the urethra had been entirely removed, he was affected with an eruption, to the best of my recollection, bearing all the character of nettle rash.

Since that period, two other cases of eruption in persons taking the balsam copaiba, have come under my notice. Here, however, the disease has appeared to me to resemble more strictly the roseola, as depicted by **Willan**, in his valuable work on the diseases of the skin. One was in a young gentleman who had consulted me for the gonorrhœa. I had seen my patient in the morning; in the evening he came to my house in great alarm, the skin on his breast and arms being covered with red blotches, not elevated, generally coalescing in patches, and bearing some resemblance to scarlatina, though rather fainter in colour. The other occurred in a person, who, on inquiry, I found had been taking copaiba for gonorrhœa. In both these instances, the affection of the skin disappeared in three days, on omitting the copaiba, and employing the supertartrate of potash, as a gentle laxative.

The balsam employed in the foregoing cases was procured from three different shops in the city, thus precluding the probability of any of those adulterations, or accidental changes, which so frequently impair the virtues of our remedies, or impart to them new and deleterious properties. I am therefore inclined to believe, that the inconvenience experienced may be fairly imputed to the article itself: and this is confirmed by the observations as published by **Armstrong**, in 1818. Future observations may explain the cause and point out the means of prevention.

ARTICLE XII.—*Account of Operations for destroying the Stone, performed by* M. CIVIALE. *In a letter to Dr. Hodge from R. La Roche, M. D.*

Marseilles, Oct. 19, 1827.

When I arrived at Paris, I was very desirous of seeing M. **Civiale** operate for the stone; for, independently of the curiosity which every member of the profession must naturally feel, and which of course I felt, to witness an operation of which so much has been said, and which is regarded by the most competent judges as likely to supersede, in many cases, the necessity for the ordinary painful and dangerous method, I had other motives for wishing to see it. These were to find out the causes of our failures in Philadelphia, with the instruments, such as they had been described to us by our friend Dr. BROWN; failures too in which I felt rather interested, inasmuch as I had been one of the first to recommend the operation to our countrymen, and to expatiate on the great benefits that were likely to resort from its adoption by our surgeons. An opportunity soon presented itself of gratifying my wishes; for having gone, on the morning of the 28th of June, (in company with Dr. M'CLOUGLIN, a very amiable and intelligent English physician with whom I had the pleasure of becoming acquainted at Paris, and to whom I am under many obligations,) to the Hospital du Gros Caillou, for the purpose of seeing M. LARREY, we there met M. CIVIALE, to whom Dr. M'C. introduced me, and who kindly invited us to his house the next day, to witness the operation on several individuals. I need hardly tell you I gratefully accepted the invitation, and was punctual at the rendezvous.

The operation was performed on two individuals. A third had his bladder *explored*, with a view of finding out, if there remained in it, any fragments of calculus; for he had been operated upon several times. In the first of the two before mentioned individuals, the stone had been in part pulverized and broken, in some previous sittings; in consequence of which, a fragment had passed into the canal of the urethra, and was stopped within half an inch or an inch of the end of the penis. M. CIVIALE succeeded, by means of a pair of dissecting forceps, in breaking this fragment, and extracting it by pieces; for it was very large, much more so, indeed, than was at first expected, and so irregular as to adhere very firmly to the coats of the canal. Another, but smaller piece, was discovered a little lower down, and scooped out, with the help of one of the blades of the lithontriptic forceps. This done, M. C. introduced a curved gum-elastic canula into the bladder, and through it injected some water into that viscus. I must here mention, that after the canula is removed, the greater portion of the water remains in the bladder, which I confess somewhat astonished me; for I had been induced to expect, that the liquid, by irritating the mucous membrane of the bladder, would compel the viscus to contract, and empty itself. Perhaps it is to guard against this effect, which I now suspect will only arise from the stimulus of distention, that M. C. never injects more water than the bladder can well receive with ease, and always inquires of the patient, the best judge in those matters, if a sufficient quantity has been thrown in.

The next step in the operation was the introduction of the instruments. This, as you may remember, was thought in America to be difficult, and even to constitute one of the greatest objections to the operation itself; because these instruments are straight, while the canal of the urethra, through which they must necessarily pass, is curved. Be the shape of the urethra, however, what it may, no such difficulty was encountered by M. CIVIALE. I will even go further, and affirm, that in these cases, the introduction was affected with more facility, and in much less time, than I had ever seen done by other surgeons, with the common curved sound; so that I am disposed to conclude, that all the objections raised against the operation, and grounded solely on the shape of the instruments, can be very easily removed by witnessing a trial of them by a skilful surgeon. After searching a little while, a fragment of stone was discovered; but, as it was somewhat small, some difficulty was experienced in grasping it firmly enough between the blades of the forceps to allow the full effect of the file. This was finally done, however, and as the stone was soft and friable, the boring was accomplished in a very few minutes. A quantity of sand mixed with water was passed out during the operation between the urethra and the sound. No difficulty was found in turning the stone when it had been bored; all that was necessary was to loosen it a little in the forceps, turn them rather suddenly, and move them about. The boring was once more resumed; after which, the instruments being removed, the patient was allowed to make water. Another operation, to which he was to submit a few days after, has probably terminated the business in this case, and rid the patient, at least for some time, of his painful complaint. He appears to have laboured a very long time under the calculous diathesis; as he is now upwards of sixty years of age, and was cut at twelve years for the stone. M. C. was not a little pleased to point out to me a fistulous opening in the perineum of this man, consequent on the operation last alluded to.

The second patient was about fifty years of age, and had laboured a long time under the disease. The stone was very hard and large, and had already necessitated eight operations. Water was injected, as in the former case; the instruments were introduced with the same facility; the stone seized almost immediately, bored, turned, and bored again, several times. M. Civiale did not expect to remove all that remains of the calculus, without three or four more sittings. As regards the third patient, I have already said, that M. C. merely sounded him, to ascertain if there remained any fragments of stone in his bladder. This was accomplished with the full set of instruments, so that if any thing had been found, it would have been seized at once and destroyed.

The degree of pain, caused by the operation in the cases I witnessed, varied. In the first it was considerable, and the patient could hardly prevent himself from bearing down and expelling the water. This was particularly the case while the stone was sought after. In the second, much less pain was experienced; while the third patient seemed to suffer very much, from the motions which were necessarily imparted to the instrument, with a view of exploring the whole of the viscus. After the operation, the patients seemed very little incommoded, and, after making water, walked out as if nothing had happened. They are subjected to a suitable regimen, for preventing the occurrence of inflammation, and with the same intention they are recommended to resort frequently to the use of tepid baths.

This method of removing the stone from the bladder, requires, as you may readily presume, a great deal of dexterity, and a considerable experience in the use of the instruments, on the part of the operator. Many of the best surgeons in France have failed in their first trials; and I am really sorry that in our country it should have been laid aside so soon, merely because those who resorted to it, were not able to wield the instruments at once, with sufficient dexterity to seize and bore the stone as readily as those who had more experience than they. As regards M. Civiale, it is impossible to see him operate without admiring the care with which he introduces the instruments, and accomplishes all the steps of the operation. It is true, that this dexterity can only be acquired by long exercise; but can we not say the same of all operations? and ought a surgeon to lay aside, in despair, and even to censure, a new, less painful, and less dangerous method of ridding a patient of the stone, because, after pushing into the bladder an improper instrument, he has failed to grasp the stone, and to destroy it? I have said an improper instrument, because, after witnessing M. Civiale's operations, and examining attentively his instruments, I am convinced that the failures in America arise from the improper construction of those made use of there. For example, M. Civiale's forceps, present, when closed and placed in the canula, an olive like extremity. This is easily done; for two of the blades which are curved in at the extremity are of the same length, and placed in pretty close contact, while the third, being longer, laps, as it were, over the others, and, the extremity being curved like that of the former, forms the extreme end of the olive, and, when embued with simple cerate, offers little or no roughness to the urethra, as it is pushed along into the bladder. In order that the blades should be of sufficient strength, they are made pretty thick, and are rather larger when closed than the canula, so that they cannot pass through the latter; and to be placed at the end of it, it is necessary to introduce their stem backwards. Into this stem is also introduced backwards, that of the rasp or file. Here, then, is a complete instrument, three in one, the extremity of which is formed by the forceps, and of the proper shape for finding its way into the bladder. Now mark the difference. In the first trial made in Philadelphia, the surgeon attempted to introduce the canula, without the forceps, or any thing else, in it, which could afford a round extremity; and it was only after working at it a quarter of an hour with an instrument which was naturally impeded in its progress by the folds of the urethra, that a bougie was placed in the canula, and enabled it to be introduced. But all these trials had tended to increase the already great irritability of the bladder and urethra: so that, when water was injected into it, it was almost immediately expelled; and the patient suffered so much pain, on the introduction of Mr. Rorer's ingenious forceps, of which I shall have occasion to speak by and by, that the operator desisted, and, so far as I have been able to learn, never again made a trial of the instruments. In the next trials, the canula was again introduced without the forceps, the round extremity being made by means of a steel rod, which was removed to make room for the forceps. It must be very clear, that these, in order to pass freely through the canula, must be very thin and pliable, too much so indeed to grasp firmly a calculus subjected to a powerful friction; and, 2ndly, even supposing that the forceps had answered, it is evident that the lithontriptor must be too small at the extremity to allow it to make a sufficiently large hole in the stone; and that, before a large calculus could have been destroyed by it, it would be necessary that the boring should have been repeated at least one hundred times. As regards Mr. LUKENS's instrument, in which many of the objections to which I have alluded were obviated, I can say nothing; as I do not know, that more than one trial was made of it in America, and that too in an individual whose urethra was very small and irritable. M. CIVIALE, however, told me, that one of the greatest objections to it was, that when the stone was once enclosed in the kind of steel basket in which the forceps terminate, it was impossible to get rid of it, in order to withdraw the instrument. Of this I do not pretend to be competent to judge.

Several surgeons have devoted great attention to this operation in France, and some have made alterations in the instruments, which are regarded by them and their friends as improvements, but by others as not worthy of much notice. Among these *modifiers*, M. HEURTELOUP and M. MEIRIEN are more spoken of than any others. Having never seen the instruments made use of by the former, I must be silent on the subject of them. As regards those which M. MEIRIEN has contrived, having had an opportunity, at a meeting of the Royal Medical Society of this city, of examining them, as well as of hearing M. M. describe them himself, I will communicate to you all I heard and saw on that occasion. As is generally the case on such occasions, M. MEIRIEN, before describing his own instruments, pointed out the defects of M. CIVIALE's. He remarked, 1st, that the olive, which the three blades of the forceps form by their union, not being complete, its introduction is difficult, and the mucous membrane of the urethra, dipping into the interstices which exist between them, may be torn (or, as he expressed it, ploughed) by the lithontriptor. 2nd. The strawberry extremity of the lithontriptor presenting a larger diameter than the cavity of the tube of the stem of the forceps, it is impossible to introduce and withdraw it at pleasure, so that it is necessary, in order to distend the bladder, to introduce primarily an ordinary catheter, and inject water into that viscus before the introduction of the instruments, which complicates the operation. Moreover, as the water injected into the bladder always escapes during the operation, it may happen, owing to the difficulty of replacing it, that the bladder will embrace powerfully the stone and the instruments, and, in consequence of this, the surgeon will not be able to get rid of the former, and from this to disengage the instrument, with a view of withdrawing it from the bladder; or if it succeed, it may only be with the danger of pinching and tearing that viscus. 3d. This accident is so much the more to be feared, as the hooks which form the extreme ends of the blades of the forceps pass over each other, and can, consequently, the more readily seize and tear the coats of the bladder. The fear of this accident is not imaginary; for it has been found, by dissections, to have really happened. 4th. For numerous reasons, which are easily appreciated when we have the instruments before us, the stone is often with difficulty grasped, or it is seized improperly, (as for example, by its long diameter, or by one of its extremities only,) and then it escapes very readily. This also happens, when the diameter of the stone is more than eighteen lines. 5th. When the stone is seized in the most favourable manner possible, and firmly secured, it is only in our power to bore one hole in it of the size of the lithontriptor, that is, from two to four lines in diameter. It is necessary to seize it, and loosen it a great number of times, which prolongs the operation, and, consequently, the sufferings of the patient; for the seizing of the stone is the most difficult part of the operation for the surgeon, and the most painful for the patient, who generally does not complain during the time we act upon the stone, particularly if the latter has been well isolated from the parietes of the bladder. Repetitions of the operation are always dangerous, when very frequent. "I have found, on trial on a stone out of the bladder, that to destroy one of an inch diameter, and which is pulverized in ten minutes by means of my instruments," (it is M. MEIRIEN who speaks,) "it required to be bored thirty-two times with M. CIVIALE's; and, even then, there remained fragments which could not have passed through the urethra. It must be noticed also, that as the stone was before me, I could place it in the most favourable positions within the claws of the forceps; which cannot, of course, be so readily done when it is in the bladder; it happens sometimes, also, that after the stone is loosened, and again seized, the lithontriptor is pushed against a part already bored, and it is necessary once more to alter the position of the stone.

"6th. If, in the common operation for the extraction of the stone, in which the surgeon has it in his power to explore the cavity of the bladder with his finger, he is liable to leave fragments in that viscus, when the stone has been broken by the forceps, the same accident can so much the more readily happen in the new operation; for we do not possess in this the same means of examining the interior of the bladder. In consequence of this, it happens that patients are imperfectly cured. Of the truth of this, I have in my possession many proofs. It is, therefore, essentially necessary that the stone should be completely pulverized."

After stating the preceding objections to M. CIVIALE's instruments, M. MEIRIEN proceeded to give a description of his own. "So many inconveniences," he remarked, "call for modifications. I will not occupy your attention with all the trials I have made; but only with the principal ones, and the last instruments which I employ. I at first constructed an instrument like the forceps of M. LEROY, which is nothing more than the ball extractor of ALPHONSIN. The extremities consisted of spoons, which formed a complete olive at the end of the external sound; but when the stone was voluminous, it was difficult to secure it very firmly. With the view of preventing the læsion of the bladder, I had adapted to the external canula a screw which prevented the complete approximation of the blades. In order to destroy the stone, I made use of a lithontriptor," (or, as he calls it, a *lithorineur;*) "that is, of a stem of steel, terminated by two files, which, being separated and approximated at will, allowed me to destroy a large surface of the calculus. The lithontriptor being withdrawn and replaced at will, through the tube of the forceps, I could very easily inject water, when necessary, into the bladder, without deranging the instruments. Yet there was this inconvenience to the instrument, that it was not always possible to extract all the fragments of the stone. With the view of effecting this, I had made use of forceps similar to those of HUNTER; with this difference, however, that they could bend at an inch from the extremity, so as to explore every part of the bladder. This forceps was pushed into that viscus, through the tube of the larger forceps, before occupied by the borer: by means of a small screw near the external end of its stem, it could be bent, the blades opened: the fragment being secured, I brought it within the claws of the larger forceps, secured it, withdrew the small forceps, and introduced the lithontriptor. This last instrument (the small forceps) is the only one of that set, which I make use of at present.

"Instead of the three bladed forceps, I now employ one with from six to ten. These blades, like the others, are made of steel, separate from each other, in consequence of their own elasticity, and are brought in opposition by means of a very fine silk cord, passing from one blade to the other, at their extremity, and afterwards communicating exteriorly through the stem. The disposition of the instrument is such that I seize the stone with the greatest facility, and that the fragments that might escape from between the blades into the bladder would always be small enough to pass out through the canal of the urethra. The strength of this instrument is very considerable. It is to be remarked that in all the other instruments there exists a lever of the third species, which is the least advantageous of its kind; because the fulcrum and the power are very near each other, whilst the resistance is at a great distance, which necessitates so much force as to endanger the breaking of the blades. In my instrument, the mechanism is different. Here the power is placed beyond the resistance, by means of the silk placed at the extremity of each blade. The instrument is used with the greatest facility. After having introduced it into the bladder, I open the forceps, sound for the stone, and inject through the stem six ounces of water. Having found the stone, I open the instrument upon it, by merely pushing a screw, which loosens the silk, and I plunge upon the stone, which can no longer escape. I tighten the silk; the blades, in consequence, close beyond the stone, and the latter is now confined within a sort of steel basket.

"There is nothing in my instrument which can wound the bladder or the urethra. In order to seize the calculus, I am compelled, as in the other methods, to place my patient in a fatiguing posture. But, however, when it is once secured in the forceps, I make use of a particular kind of bed, with a peculiar screw, which can be fixed, also, to any table. In this screw, which can be raised and lowered at will, the instruments may be firmly fixed; so that, while destroying the calculus, the patient experiences no jarring;" which he must necessarily do, when the instruments are merely held by an assistant. Like M. Civiale, M. Meirjen makes use of the bow in order to put the lithontriptor in motion. "With my instruments," he continues, "I attack the stone on a flat surface; I next turn it, in order to destroy another part of its circumference. The turning is easily effected by loosening the stone, and allowing it to fall in the inverted cone, formed by the blades of the forceps. In this way I proceed to the last, filing the smallest fragment, and reducing the whole to powder."

All the instruments here alluded to by M. M. I saw; and I can vouch for the correctness of his description. They are all really very ingeniously contrived; and if they succeed as well on the living, as they have done here on the dead subject, he will certainly deserve a great deal of credit for the alterations he has made in the instruments already in use: for, to grind down the stone in one, or at most, in two sittings, and to leave no fragments behind, capable of forming the nuclei of future stones, is doubtless a desideratum. But time and experience alone will decide how far M. M. is founded in his high pretensions; for, although he talks pretty largely of what he has accomplished, and of the ease with which he destroys in one sitting a stone of ordinary size, (which has always been the case in his operations,) we have only, so far as I know, his own word for it; whereas M. Civiale's success is known to every one, at least in France, and his operations are already very numerous.

You will have remarked, that between M. M.'s forceps and that contrived two or three years ago by Mr. Rorer in Philadelphia, there is a great analogy; for, in both, the blades of the forceps are made to approximate and to secure the stone, by means of a piece of silk cord passing from one to the other. M. M.'s, however, has this great advantage over the other, that the blades instead of being three in number, and forming, with the cord at the extremity, a triangular opening too small to admit a common sized calculus, are eight or ten, and consequently present a circular opening in which almost any stone can enter. Between the blades, also, none but very small fragments can pass; whereas, between those in Mr. Rorer's forceps, large ones can find an exit into the bladder. M. M.'s double file resembles also somewhat [illegible]r. Lukens's, and is certainly, if of sufficient strength, a very excellent one.

M. Meirien showed us, also, several other instruments. Among these were various kinds of grinders, which it would require too much time to describe here. He showed us a sound, made of bell-metal, hollow, curved, and formed, as it were, of rings one in the other. The advantage of this is, that in passing the stone it makes a considerable noise, so that the existence of the latter in the bladder is easily discovered; which is sometimes difficult to do with the ordinary sounds, because they may pass over the stone without the grating being heard. In order to increase the sound, he has adapted a trumpet-like opening at the outer extremity. For this instrument he is entitled, however, as he allows himself, to very little credit; the annular part having been proposed by M. Recamier, and the expanded one by M. Amussat. All he has done, is to combine both in one instrument. He also showed us a gum elastic catheter, having in it a steel instrument which he can curve or straighten at will. He uses it to straighten the canal of the urethra when the latter is so curved as not to allow the introduction of a straight sound. He is the inventor of it.

The most curious part of this business, however, is, that M. M., who was bred a physician, and is very well informed in his profession, *manufactures* his own instruments. They are as well made and as delicately finished as any I ever saw in France or America. I will merely add, that, in order to remove the irritability of the parts, which sometimes prevented the injection from being made, M. M. has had recourse to frictions around the anus, or the perineum, &c. with an ointment composed of equal parts of extract of belladonna and simple cerate. He was led to this by the known fact, that this substance causes a dilatation of the pupil.

ANALYTICAL REVIEWS.

ARTICLE XIII.—*Dublin Hospital Reports*, 1827. Concluded.

CONFORMABLY to the promise given in our last number, we shall continue our analysis of this interesting volume. The paper next in order is entitled a "*Report of an Inquiry into the value of Mediate Auscultation as a Method of Diagnosis in Inflammations of the Pleura, Lungs, and Bronchia.* By WILLIAM STRACK, M. D., *Physician in ordinary to Sir P. Dun's Hospital, &c. &c.*" The writer, after adverting to the imperfections of percussion as a method of exploration of the chest, tells us that it still affords "the most useful aid in practising mediate auscultation; the employment of which is not by any means to supersede the use of the former: for it happens, by a very singular coincidence, that the defects of the one method are in most instances accurately supplied by the other; so that, from a combination of both, a degree of certainty, as to the nature of thoracic disease, can be attained, such as is not to be had with respect to affections of any other cavity." Dr. STRACK, is not, however, so sanguine as some of his medical brethren, as to the possibility of distinguishing, by the means just indicated, between inflammation of the mucous, serous, and parenchymatous structures of the thoracic viscera. In acute inflammation, he admits, that it is easy enough to form the diagnosis, provided the practitioner has an opportunity of observing the disease soon after its formation; but the case, he thinks, is widely different, when we are called upon to pronounce a diagnosis in a disease of somewhat protracted standing, as between pneumonia and pleuritis.

We refrain, at this time, from any very minute critical analysis of Dr. STRACK's doubts in this particular; both because we believe that his evidence is rather negative than positive, and because we believe that our readers are not yet familiar enough with the meaning and value of the signs derived from mediate auscultation to take an interest in the more complex view of the subject. We shall not, however, lose sight of it. Dr. S. is inclined to attach more importance, in certain cases of thoracic disease, to the colour of the face, as a diagnostic evidence. Each of the three inflammations, viz. "pleuritis, pneumonia and bronchitis, possesses, when the disease is at all severe, the characteristic of a peculiar colour of the countenance." Our author mentions the shades of colour which he conceives to be indicative of each of these diseases; and explains at some length the causes of the various colours of the face, particularly of the cheeks. He admits, however, that all this is only applicable to these affections when in an uncomplicated form: when they are complicated with each other, the flush peculiar to each is of course modified by that attendant on the superadded affection. For example, in pleuro-pneumonia, (that is where inflammation of the parenchyma of the lungs is complicated with pleuritis,) we may expect to find the dusky lucid red of pneumonia assuming the place of the florid red of pleuritis; because a moderate degree of inflammation of the lung will produce a greater deviation from the natural colour of the countenance, than the same degree of inflammation of the pleura." "Even in simple pneumonia, it may happen," says Dr. S., "that the colour of the countenance shall approach more to the cast described as peculiar to bronchitis, than to that of genuine pulmonic effusion." In addition to these difficulties in the way of correct diagnosis, from the colours of the cheek, in thoracic inflammations, we would observe, for ourselves, that in cases of hepatic, or gastro-hepatic disease, it is not by any means unusual to see that deep flush which our author insists on as a sign of pneumonia.

The next question discussed, is, which of the three above-mentioned diseases is most liable to become superadded to one of the others; that is, which of the tissues, the serous, parenchymatous, or mucous, is most liable to be consecutively or sympathetically affected by the inflammation spreading from either of the others. Dr. STRACK conceives that the extension of disease to the pleura from the mucous membrane, though it does not often happen, is comparatively of much more frequent occurrence, than bronchitis supervening on pleurisy. The very reverse of this opinion is held by LAENNEC; who, in his great work,* Vol. I. pp. 193-4, tells us, that pulmonary catarrh is commonly complicated with numerous affections of the pleura and pulmonary tissue, of which it is almost always the effect. It is, he asserts, rarely the cause of other thoracic derangements, except emphysema of the lungs, or dilatation of the bronchia.

In the complication of pleurisy with pneumonia, (pleuro-pneumonia,) Dr. S., coinciding with LAENNEC,† regards the pulmonary tissue as the part primarily affected in the major number of these cases. The French pathologist tells us, that there are few instances of simple pneumonia; that is, without the presence of false membranes in some part of the pleura costalis or pulmonalis, or the effusion of serum. He avers also, that the junction of pleurisy with pneumonia diminishes the danger, by the compression on the lung of the effused fluid in the cavity of the pleura, moderating the inflammatory action.

The next question, "whether does inflammation more frequently spread consecutively from the mucous to the parenchymatous, or from the parenchymatous to the mucous structure of the lungs?" is answered both by Drs. STRACK and LAENNEC, "from the parenchymatous to the mucous tissue." Dr. S. concludes his paper, by pointing out the possibility of our mistaking acute pleurisy for an advanced stage of pneumonia, "at least to persons not very perfect in the art of auscultation."

In order to preserve the continuity of subject, we shall next notice the paper consisting of "*Additional Cases from the Medical Wards of the Meath Hospital.* By R. GRAVES, M. D., and WILLIAM STOKES, M. D." These are to be considered, independently of the clinical instruction which they convey in other respects, as affording additional illustration of the value of mediate auscultation. That we may be the better understood in our future remarks on this theme, we shall here present our readers with the terms commonly employed in conducting stethoscopic examination, and the meaning to be attached to them.

I. AUSCULTATION OF RESPIRATION.—The sound of respiration is different, in the pulmonary tissue, from that in the larynx, trachea, and great bronchial trunks. The stethoscope, in the auscultation of the lungs, must be used without its moveable top.

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* Traité de L'Auscultation Médiate, et des Maladies des Poumons et du Cœur. Seconde Edition. Paris, 1826.

† Op. citat. p. 221, Vol. II.

Pulmonary Respiratory Sound, or simply *Respiratory Murmur.*—If the stethoscope be applied to the chest of a healthy person, the examiner will hear, during inspiration and expiration, a low, but very distinct murmur; which indicates the entrance of air into the pulmonary tissue, and its expulsion therefrom. This murmur may be compared to that of a bellows, when the valve or clapper makes no noise; or, still more, to that which would be heard by the naked ear, when produced by an occasional deep inspiration in a profound sleep. It is distinguishable at all parts of the chest, and especially in those regions in which the lungs are nearest the surface; that is, in the antero-superior, lateral, and postero-inferior regions. The hollow of the arm pit, and the space compressed between the clavicle and the superior border of the trapezius muscle, are the points in which the murmur is most perceptible. It is the more sonorous, the more rapid the respiration. In infants, it is quite loud, and readily heard through the thickest clothing. Occasionally this is heard in adults, even in advanced life: it is called *puerile* respiration.

Respiratory Bronchial Sound, or simply *Bronchial Respiration*, is the noise produced by inspiration and expiration, in the larynx, the trachea, and its bifurcations at the root of the lungs; and heard when one end of the stethoscope is applied over the larynx, and the cervical portion of the trachea. In cases of compression or engorgement of the pulmonary tissue, by which the air is prevented from passing into the air cells, the bronchial is the only kind of respiration which is heard. In peripneumony, it is one of the first signs of hepatization, and also of the presence of tubercles at the summit of the lungs.

Cavernous Respiration. This is the term applied to the sound produced, during expiration and inspiration, by an excavation formed out of the substance of the lungs; either by softened tubercles, or gangrene, or abscess. This sound resembles the bronchial respiration. The air penetrates, however, into a more extensive cavity than in the common bronchial branches, and the sound must of course be more audible. If doubt exist as to its nature, attention to the cough and resonance of the voice will solve the difficulty.

Whispering Respiration. In this case, the sound of the patient's breathing seems to be produced by the air directly inspired from the ear applied to the stethoscope. It may be caused by fits of coughing, and even by the modulations of the voice; it takes place also in the large bronchial trunks, whenever the adjoining pulmonary tissue is indurated, or more dense than natural, as in pneumonia. In pulmonary excavations, it always indicates that they are very near the surface of the lungs.

Laennec mentions a variety of this whispering respiration, which he calls the veiled whisper; as if a moveable veil were interposed, between a pulmonary excavation and the ear of the observer.

II. Auscultation of the voice.—The sound, when the patient speaks, striking on the ear applied to the stethoscope, will vary very much in its tone and intensity, according to the state of the pulmonary apparatus at the time. One of the most usual noises is *pectoriloquism.* This consists in the transmission of the voice through the cylinder in a more direct and forcible manner than ordinary; and is produced by tubercles in a state of ulceration, forming cavities, through the dense walls of which, the vibration of the tracheo-bronchial tree is more readily conducted than in the healthy state of the lungs. The resonance of the voice in the different parts of the respiratory organs, whether in their healthy or diseased state, presents numerous varieties, the principal of which are, 1. The resonance of the voice in the pulmonary tissue. 2. In the larynx and trachea. 3. In the large bronchial trunks. 4. In the small bronchial branches. 5. In the excavations accidentally formed in the pulmonary tissue. 6. A peculiar phenomenon to which the term *egophony* is applied. When examining the state of the voice in these cases, the stethoscope is to be used entire, with its top or moveable end properly adjusted to the body of the instrument.

The resonance of the voice, in a healthy subject, is quite indistinct; and only produces a sensation on the ear of a slight humming, corresponding to the vibration felt by the hand on the chest of a person speaking.

The second variety, or *laryngophony*, conveys the impression of the direct transmission of sound from the larynx or trachea, to the ear of the examiner; and prevents his hearing the sounds coming from the mouth. It resembles pectoriloquism; and will give a person a very good idea of this latter phenomenon, who has not an opportunity of observing it on a diseased subject.

The third variety of the resonance of the voice, or that produced by the large bronchial trunks, is much more obscure. It is ascertained by placing the stethoscope in the inter-scapular region. Here, especially towards the superior internal angle of the scapula, the sound is more distinct than in any other part of the chest; it is not directly transmitted, as in the second variety, through the cylinder, but vibrates with sufficient force against the thoracic extremity of the instrument, to be heard more distinctly than the vocal sounds issuing from the mouth. In thin subjects, and especially children, this sound, called *bronchophony*, is almost as intense as laryngophony.

The resonance of the voice in its fourth variety, or in the minuter divisions of the bronchia, spread through the pulmonary tissue, is, in a healthy state, very trifling. The rarefied air, and the delicate ramifications of the bronchia, now no longer cartilaginous, are bad conductors of sound. But in peripneumony, or extensive engorgement of the lungs, or a collection of tubercles in a small space, the pulmonary tissue, being indurated, produces a resonance analogous to pectoriloquism, and which, by Laennec, is called *accidental bronchophony*. This phenomenon is still more evident, if the induration of the lung has taken place near the root. Dilatation of the bronchia produces the same effect; and the more readily, as it often happens that the pulmonary tissue compressed by the dilated branches, is deprived of air, and rendered more compact than in its natural state. Bronchophony is, however, rarely identified with pectoriloquism, so far as not to be distinguishable by an ear moderately exercised. In the former, the voice seldom traverses the cylinder; its tone resembles somewhat that of a speaking trumpet; its resonance is more diffused, and is evidently heard as from a distance. The cough, and the sonorous inspiration following, also aid in fixing its characters.

Pectoriloquism is the name given to the resonance of the voice in an excavation accidentally formed in the pulmonary tissue; and which may result from various causes. Pectoriloquism is either *perfect*, or *imperfect*, or *doubtful*. It is said to be imperfect, when the transmission of the voice through the instrument is not clear and direct; it is doubtful, when the resonance is very faint, and when it cannot be distinguished from bronchophony, except by the aid of the signs derived from its situation, the general symptoms, and the march of the disease. The intensity of the pectoriloquism, is not always proportionate to the extent of the excavation; sometimes, where the cavity is very large, and the openings into the bronchial cells narrow, it is quite indistinct. Occasionally, this phenomenon may be suspended for some hours, or even days, by sputa, or softened tuberculous matter, obstructing the communication between the cavity and the bronchia.

Of *Egophony*, called also by LAENNEC *resonnance chevrotante.*— This phenomenon is, of all others made known by auscultation, the most complex. It may be easily confounded, especially by an unpractised ear, with pectoriloquism, and still more readily with bronchophony. Simple egophony consists in a peculiar kind of resonance of the voice, accompanying or following the articulation of words. It seems as if a voice, acuter and sharper than that of the patient, and in a measure silvery, strikes or thrills along the surface of the lung: it is like the echo of the voice of the patient, rather than the voice itself; it rarely passes into the tube, and hardly ever entirely traverses it. It has, according to LAENNEC, a distinctive character, from which he has derived its name; it is trembling and jerking, like that of a goat, and in its tone, it resembles that of this animal. When egophony occurs in the vicinity of a great bronchial ramification, and particularly near the root of the lungs, it is often associated with bronchophony. The union of the two phenomena present numerous varieties, of which, according to the French writer, who is paramount authority on this subject, we may form a pretty accurate idea, by calling to mind the effects, 1. Of the transmission of the voice through a metallic speaking trumpet, or a cracked reed. 2. Of a counter between the teeth and lips of a man, while he is speaking. 3. Of the nasal stammering of the Merry Andrews, who give voice and speech to their hero Punch. This last comparison is often perfectly accurate, especially in persons with a somewhat grave voice. It is common to meet, in the same subject in whom this union of the two phenomena is present at the root of the lungs, simple egophony at the inferior portion of the external border of the scapula. To distinguish well the sound of egophony from bronchophony, the stethoscope must be applied firmly to the chest of the patient, and the ear of the physician rest lightly on the other end of the instrument.

Laennec assures us that egophony is only exhibited under the following circumstances: 1. In subjects attacked with acute or chronic pleurisy, with an effusion of a moderate amount in the thoracic cavity: 2. In those attacked with hydrothorax, or some other fluid effusion of this cavity. It is commonly manifested at the very commencement of pleurisy; but only becomes decided and loud on the second, third, or fourth days, and rarely before the respiration has become almost insensible, or entirely ceased, and the sound of the chest, on percussion, dull or dead on the affected side. Egophony differs from pectoriloquism, in being always heard over a surface of some extent, whereas the latter is confined to a circumscribed spot or point. It is most generally to be heard in the space comprised between the internal border of the scapula and the spine; in the whole course of the inferior angle of the former bone; and in a zone of about three fingers breadth following the direction of the ribs, and extending from the middle of the scapula to the nipple. Occasionally, it is heard all over the affected side. It is worthy of remark that the points in which the egophony is most distinct, viz. at the inferior angle of the scapula, and between the internal margin of this bone, and the vertebral column, correspond to the part of the lungs in which the most voluminous bronchial branches are met with. This phenomenon may be received as of good augury, in pleurisy, since it indicates a moderate effusion; and its persistence is also favourable, as it shows that there is no increase of the effusion, which, when coming on suddenly, and in large quantity, so as to throw back the lungs against the mediastinum, and also when there is a false membrane without much fluid, prevent the egophony. It may exist, conjoined with bronchophony and pectoriloquism, in cases of pleuro-peripneumonia with abscess of the lungs.

The *cough*, in pulmonary affections, not unfrequently aids the physician in his diagnosis obtained by auscultation. **Laennec** speaks of the *tubular cough*, in inflamed and hepatized lungs; but we are not so much called on to study its varieties, as to note the strength and intensity of the sounds already designated, when the patient coughs. Thus, during an effort of this nature, the cavernous rattle, and the *tintement metallique* are more perceptible, and pectoriloquism, before suspended, may by it be restored.

Among the sounds foreign to respiration, and the resonance of the voice, we have, as most worthy of especial consideration, the rattle, (*râle*,) and the *tintement metallique*, terms not readily translatable, and the meaning of which, therefore, must be expressed by a periphrasis. By rattle, is understood the noisy murmur made by a person dying, and caused by the air traversing with difficulty the sputa which can no longer be expelled from the lungs. This noise is produced almost entirely in the larynx and trachea, or, at most, at the origin of the great bronchial trunks, and is hence called, by LAENNEC, the *tracheal rattle.* It is the only one which can be heard with the naked ear, and even then at a limited distance only; also, it is observed, at its intensity, in aggravated hæmoptysis, and in the paroxysms of the mucous catarrh of old men; which, on such occasions, usually assumes the name of *catarrhus suffocativus.* In the moribund, and especially in those dying from phthisis, peripneumonias, and diseases of the heart, and fevers of a violent character, it is also very intense; and is a bad omen. The ramifications of the bronchia will often furnish to the ear applied to the stethoscope, a noisy rattle, when hardly any murmur could be heard without the instrument. The five principal kinds of rattle are, according to LAENNEC, 1. The humid rattle, or *crepitation;* 2, the mucous rattle, or *gurgling;* 3, the dry sonorous rattle, or *snoring;* 4, the dry hissing rattle, or *hissing;* 5, the crepitating rattle with large bullæ, or *crackling.*

The *humid crepitating rattle* evidently takes place in the pulmonary tissue, and may be compared to the crepitation of salt put into a pan at a mild heat; or to that caused by the insufflation of a dry bladder; or, better still, to that which is heard when we press between the fingers a portion of healthy lung inflated with air. The mucous rattle, or gurgling, is that which is produced by the passage of air through sputa accumulated in the trachea or bronchia, or through a softened tuberculous matter in an ulcerated cavity of the lungs. It is the "*rale*" of the dying, and which in English, is popularly called "the rattles." This is the only rattle which can be distinguished by the naked ear; and even then, only when, as already observed, it has its seat in the trachea, and its immediate ramifications. By the aid of the stethoscope, it is heard in every part of the lungs. It is present in pulmonary catarrh, and hæmoptysis, and, not unfrequently, in peripneumony and phthisis pulmonalis.

The *drysonorous rattle*, or *snoring*, is confined to a limited portion of the lungs. At times the sound resembles that of a man snoring; and at others, it so perfectly imitates the cooing of a turtle-dove, that the physician would be almost tempted to believe that one of these birds was under the patient's bed.

The *crepitating rattle* with large bullæ, or *crackling*, is perfectly analogous in sound to that caused by a dry bladder during its insufflation. It is the pathognomonic sign of emphysema of the lungs, and of their interlobular portions, and, in the latter, is particularly distinct.

The sound called by LAENNEC *tintement metallique* is, he informs us, precisely like that produced by a pin struck against a metallic, or glass, or porcelain cup, or by a grain of sand falling into a vessel of this nature. This phenomenon is not at all dependent on the composition of the stethoscope: it occurs, as well as egophony, if we make use of a cylinder of paper, in place of one of wood. The sound is heard, either when the patient breathes, speaks, or coughs. The *tintement metallique* always depends on the resonance of the air, agitated by respiration, or cough, or the voice, acting on the surface of a liquid, which, with the air, fills a cavity formed by disease. It, consequently, is met with in the following circumstances only; 1. where a serous or purulent effusion co-exists with a pneumo-thorax; 2. when a very extensive tuberculous excavation is only in part filled with a very fluid pus.

LAENNEC points out an analogous phenomenon, which he designates by the term amphoric humming, (*bourdonnement amphorique*,) from its resemblance to the sound produced by blowing into a flagon or pitcher.

As our object, in the preceding paragraphs, has been to furnish to our readers a vocabulary and short explanation of the terms made use of in mediate auscultation of the pulmonary apparatus, we have not thought it proper to specify certain exceptions, modifications, and peculiarities, which will more properly find their place hereafter. On an early occasion, we shall present a summary view of the application of the stethoscope to the study of the diseases of the heart, and thus complete one of the most important branches of diagnosis.

To return to the 'Additional Cases' of Drs. Graves and Stokes. The first one is designated as *Gangrene of the Lung; Dilatation of the Bronchial Tubes; Cavity in the Right Lung; Bronchitis.* The patient, aged twenty-eight years, of a full habit, and well developed thorax, had been, for the last year, subject to palpitation, cough, and pain in the sides.

"He stated, that yesterday evening, (November 1, 1826,) he had a rigor, with increased pains: cough frequent; expectoration of a dark red colour; pulse 144. He lay on the right side. Breath very fetid; and there was a cadaverous smell from the whole body; countenance of a leaden hue; lips livid.

"On percussion, the right side was dull, anteriorly; and, on applying the stethoscope, from about two inches above the mamma, to the inferior portion of the lung, we heard, at each inspiration, a sound similar to that produced by the retraction of a piston; on expiration, an obscure crepitus was audible. About the mamma, there was cavernous respiration, gurgling, and pectoriloquism.

"Over the left lung, the respiration was puerile, with a slight crepitus about the mamma.

"*Diagnosis.—Suppurative inflammation of the lower lobe of the right lung; a cavity anteriorly in the lower part of the middle lobe; slight inflammation of the lower part of the left lung.*"

We omit detailing the treatment; which, however, gave the patient relief; and on the 3d of Nov. he was found lying on his left side, which he stated he had not been able to do for the last six months. Expectoration, about two ounces; purulent, sanious, and presenting the prune juice colour in some degree.

"Thus he continued till the sixth, when a loud muco-crepitating râle was heard over the whole left lung: cavernous respiration evident over a more considerable portion of the right lung, with confused pectoriloquism: posteriorly, the murmur was natural; crepitus in the antero-posterior portion.

"*Diagnosis.—General bronchitis of the left lung; excavation in the right lung increasing.*

7, P. M. Complains of violent pain of the left side; pulse 110, small; distinct crepitus, mixed with sonorous rale, over the postero-inferior part of the left side.

Diagnosis. Pleuro-pneumony of inferior part of the left lung; no effusion into the cavity."

On the 7th November, the crepitus was less audible, and of a more humid character; sound, on percussion over left mamma, was natural; cavernous respiration less distinct.

8. Last night the patient expectorated a large quantity of blood suddenly; odour of the breath more offensive; gurgling evident over a space of nearly four inches about the right mamma.

9. Felt much better; expectoration resembling the juice of prunes, mixed with grumous blood.

He had two rigors, one on the evening of the 9th, and the other on the 10th; and he expired on the 11th.

Dissection revealed, among other changes, a gangrene of the left lung.

> "On detaching it from the diaphragm, the fingers of the operator entered the substance; and a large cavity, capable of containing a moderately sized apple, was found, of a completely gangrenous appearance: from its sides, a blackish sanies flowed in great abundance. The edges of the cavity were ragged, and in a state of deliquescent sphacelus; no bronchial communication could be found; but the affected part was surrounded by a band of hepatization, beyond which the tissue was healthy and crepitating."

The right lung was found inflamed at its superior portion, and part of it solid. An anfractuous cavity was then discovered, having three prolongations, or horns, one extending upwards, another downwards and backwards, and a third to the right side. A yellowish, semifluid matter flowed slowly from the lateral prolongation; but the other parts of the cavity were filled with a substance resembling putrid flax, and exhaling an exceedingly fetid odour. Most of the bronchial tubes in this lung were dilated, forming culs de sac at their terminations, where they were nearly as wide as at their origin. The lining mucous membrane, was of a deep red colour, soft and swollen; no ulceration could be detected. The adhesions of this lung to the pleura were so strong, that, in detaching it, the pleura costalis was torn away.

The mucous membrane of the left bronchial tubes was almost black; this appearance extended to the trachea, and, gradually fading, terminated at the rima glottidis. Some adhesions were found on this side; and the inferior portion of the pleura was highly vascular. The right ventricle was enlarged, soft, and pale; the pericardium presented the white patches of LAENNEC without adhesions.

The bronchial glands were greatly enlarged, soft, and pale. The liver, kidneys and spleen, were much increased in size. The intestinal mucous membrane healthy.

The reporters of this case lay stress on the rarity of uncircumscribed gangrene of the lungs. Laennec states that he met with it but twice in the course of twenty-four years' observation, and that but six cases occurred in the hospitals of Paris, during that period. Hence we may form some idea of its great rarity. The cavity in the left lung answers, in every respect, to the description given by this illustrious author, of uncircumscribed gangrene. (See Vol. I. p. 443, of his last edition.) Reasons plausible enough are given, why the destruction of the lung was not prognosticated before death; the chief ones were, the lowness of the part, resting as it did on the diaphragm, "in the situation, of all others, the most difficult to detect pulmonary disease," and also, because, after the cavity had formed, the bronchial communication was completely obliterated by the band of hepatization found after death. The report is concluded by a notice of "a circumstance well worthy of remark, that, notwithstanding the intense inflammation of the tracheal and laryngeal mucous membrane, the patient never complained of sore throat, nor had any affection of the voice."

The next case is one of "*General Pulmonary Apoplexy*," in a butcher, aged forty-five years, and of a full habit; seized first with violent coughing and hæmoptysis. On the morning after he had been brought to the hospital, the chest was examined by Mr. Levinge, the resident pupil, and the following observations made.

> "Strong bronchophonia, with diminished respiratory murmur, over the postero-superior part of the right lung; the sound is dull on percussion, while, anteriorly, the left lung sounds well, but the respiratory murmur is not at all distinct; action of the heart strong, and heard over the right side; no indication of disease of the valves.
>
> "From these observations, we thought it probable that a considerable part of the right lung was in a state of engorgement, termed, by Laennec, 'pulmonary apoplexy;' that emphysema existed in the left; and that probably there might be hypertrophia of the heart. The patient was removed to the medical wards, where, the next day, we made another observation. We now found the respiratory murmur clearly audible over the left lung, accompanied by a loud sonorous rattle. The bronchophonia, and dimi-

nished respiration in the right, were as on the preceding day; he had no fever, but the pulse was quick and full.

"*Diagnosis.—Pulmonary apoplexy, chiefly affecting the postero-superior part of the right lung; no emphysema; bronchitis; possible hypertrophia.*"

The next day, in a fit of coughing, during which he threw up about two quarts of blood, he died asphyxiated.

Dissection confirmed the correctness of the diagnosis. The authors think, "that, in the last and fatal attack, the hæmorrhage occurred simultaneously in a great number of separate points throughout the pulmonary tissue."

Under the head of "*Diseases of the Skin,*" Drs. GRAVES and STOKES give some very excellent directions, illustrated by cases, for the treatment of psoriasis, squamous diseases, chronic pustular and tubercular affections, and porrigo of the scalp, or scald head. They display their powers of observation and nice discrimination, in their advising venesection from the arm, and the application of leeches to the diseased part, followed by poultices, prior to the use of the common stimulating ointments and washes, which are prescribed by most physicians, as things of course. "In every instance, let the practitioner remember, that the formation of pustules on the scalp, is the result of an inflammatory process, be the case recent or chronic, and of course ought to be met by local antiphlogistic remedies." In several cases of scald head, where circumstances had prevented our authors from having recourse to leeches in the first instance, they substituted with advantage, poultices, with an ounce or two of liquor acetatis plumbi. In one case only, did the continued use of the acetate of lead produce symptoms like the colica pictonum.

In speaking of the "*Propagation of Inflammation by Contiguity,*" Drs. GRAVES and STOKES give some curious examples; as in that portion of the omentum being inflamed, which lay exactly over the inflamed portions of the intestines; in the transmission of inflammation from the pleura of the ribs, to the pleura of the lungs, directly opposite to, and in contact with it; and in that portion of the peritoneum lining the abdominal parietes, being most inflamed, in those parts which had been in contact with the most inflamed portions of the intestines. Their explanation of these facts is, that the membrane first diseased, is altered in its sensible properties, and acts as a foreign body and morbid stimulus to the opposite membrane, or that in contact with it. "This explanation seems at least more satisfactory, than Mr. HUNTER's sympathy of contiguity."

After detailing a "Fatal Case of sloughing of the Mouth and Palate, from a small dose of Calomel," the physicians of the Meath Hospital, tell us of their having "laid it down as a *rule, that all cases of sudden and violent affections of the mouth after small doses of mercury*, require immediate attention and care." Following up their resolution by practice, founded on principles, they directed, in the case of a girl salivated by mercurial unction of the head, for porrigo capitis, and in whom the inflammation of the jaws, face, and mouth, had made most formidable progress, "*frequently repeated application of leeches* to the most swollen parts. The bleeding from the leech bites was encouraged by emollient poultices. None of the stimulating gargles usually so injudiciously recommended in excessive salivation, were allowed, and the antiphlogistic regimen was enjoined. The beneficial effects of this treatment were very satisfactory, and quickly averted the threatened danger." The authors of the report have since been informed, that Dr. CHEYNE was in the habit of pursuing a similar practice for the purpose of diminishing excessive salivation.

In resuming the regular order of analysis, we meet with the "*Medical Report on the Feigned Diseases of Soldiers*: in a letter addressed to GEORGE RENNY, Esq., M. D., Director General of Military Hospitals in Ireland, &c. By JOHN CHEYNE, Esq., Physician General." The contents of this paper are valuable to all classes of medical practitioners, but are of especial moment to army and navy surgeons. It reveals a system of deception of a most extraordinary nature; in which soldiers, for the sake of procuring their discharge, will submit to every kind of bodily suffering, while under medical treatment for simulated diseases. At times, they have voluntarily maimed themselves, at the cost of a limb, or an eye, and at the imminent hazard of life itself. Dr. CHEYNE gives instances of pretended diseases and abdominal discharges in persons in civil life, which, on these occasions, seem to be as great adepts at simulation as the military cheats, or *malingerers*, as they are technically called. After speaking of the great increase of ophthalmia, in the 50th regiment, in the years 1804 and

1805, caused by the application of irritants to the eyes by the soldiers themselves, Dr. C. continues as follows:

"As allusion has been made to ophthalmia, I may take the present opportunity of observing, that I never saw a more humiliating picture of depravity, or perversion of reason, call it what we may, than I have witnessed in a ward filled with soldiers, labouring under that disease; most of the cases, as I learned from a surgeon in attendance, being fictitious. The methods, by which inflammation of the eye is produced and maintained, have not all been brought to light; but quick-lime, infusion of tobacco, the gonorrhæal discharge, cantharides ointment, nitrate of silver, blue stone, and other metallic salts, are probably among the most common irritants employed. Inflammation thus caused, is most painful, and is kept up under every privation which can make life miserable; locked up in a dark ward, and permitted to have intercourse only with the officers of the hospital, nurses, and orderlies, confined to diet which, from the absence of every stimulating material, is most disrelishing, suffering under painful external applications, and nauseating internal medicines, phlebotomized and leeched till their complexions are bloodless, their pulse hæmorrhagic, and the frightful train of nervous symptoms, which excessive blood-letting produces, is established in the system. All these evils, in many cases, have no effect but to confirm the soldier in his determination to destroy one or both of his eyes, that he may be dismissed from the service with the chance of a small pension.

"Wonderful, indeed, is the obstinacy which some malingerers evince. Night and day they will remain, with the endurance of a fakir, in a position the most irksome. For weeks or months many men have, with surprising resolution, sat and walked with their body bent double. Some have continued to irritate sores in the leg, until the case became so bad as to require amputation of the limb; and many instances have occurred, in Military and Naval Hospitals, of fictitious complaints ending fatally.

"Perversion of reason, rather than the attainment of a discharge, or the evasion of duty, would sometimes appear to give rise to the simulation of disease. Soldiers, I have no doubt, are often actuated by the same wayward fancies, so perplexing to the physician, which influence hypochondriac or hysterical patients, in the middling and upper ranks of life. I have known some persons, in seeming health, who have been hindered, solely by its expensiveness, from indulging in a medical visit daily. I knew one lady of high rank, who, whether sick or well, required a visit from her physician every morning. Many are induced to complain, from a froward humour, to annoy their relations or dependents, sometimes merely to obtain sympathy. I know a female who long pretended to be consumptive. By voluntary efforts, she coughed incessantly during my visits; and she was twice observed inserting a pin between her gums and teeth, whence she sucked blood, that she might present her handkerchief stained with blood, at my visit, which she did for several weeks. Some females have pretended that they have had no menstrual discharge for many months, while their perfect regularity was ascertained. I have known a patient aver that no discharge had taken place from the bowels for an unprecedented time: in this case, it was afterwards discovered that the fæces were consumed in the fire every night. Some have affected a loss of the power of expelling urine: some have pretended to be without the least appetite for food—that they had eaten nothing nutritious, for I do not know how long, at the same time that they were supplying the cravings of hunger by stealth. Substances have often been presented, which it has been alleged were vomited, discharged from the bowels, or bladder, which were not the product of any animal process. A similar caprice will often influence the conduct of the soldier; who, without any ulterior object, will experience some unaccountable gratification in deceiving his officers, comrades, or surgeon."

Dr. CHEYNE very properly, however, points out, as a caution against the physician becoming too suspicious of the reported sick being malingerers, cases, which have come to his knowledge, of affections of the brain, thorax, and abdomen, and diseases of the hip-joint, at first supposed to be feigned, which eventually proved genuine, and terminated in death or incurable disease. He next proceeds to enumerate the diseases, in the *province of the physician*, which soldiers most frequently feign; and subsequently offers a few remarks, which may be useful to the inexperienced in leading them to a discovery of fraud.

Diseases of the Brain and Nervous system. 1. *Paralysis.* Palsy of one of the extremities. Loss of hearing—of speech.—Nyctalopia. Loss of the command of the sphincters. 2. *Vertigo.* 3. *Head-ach.* 4. *Epilepsy.* 5. *Mania.—Diseases of the Thoracic Viscera.* 6. *Hæmoptoe.* 7. *Phthisis.* 8. *Diseased Heart.* 9. *Syncope.—Diseases of the Abdominal Viscera.* 10. *Vomiting.* 11. *Tympany.* 12. *Dysentery.* 13. *Chronic Hepatitis.—General Diseases.* 14. *Fevers.* 15. *Rheumatism.* 16. *Dropsy.* In his remarks under each of these heads, the writer gives much pertinent advice, mingled with singular, and, at times, amusing instances of deception. In reference to those who simulate palsy and rheumatism, he tells us that they more frequently yield to the electric shock than to any other remedy.

"Some there are, however, who have triumphed over every attempt which has been made to overcome their unprincipled obstinacy. About twenty years ago, a trooper, belonging to the 12th, who pretended that he had lost the use of his right arm, after resisting, for a great length of time, severe hospital discipline, as well as every effort of the adjutant to make him return to his duty, succeeded in procuring his discharge. When he was leaving the regiment, and was fairly seated on the top of the coach, he waved the *paralytic* arm in triumph, and cheered at the success of his plans."

We regret not having space to make additional copious extracts from Dr. CHEYNE's long and interesting letter.

The Second Part of the Reports opens with a paper entitled, "*Cases of the Excision of Carious Joints.* By PHILIP CRAMPTON, F. R. S., Surgeon General to the Forces in Ireland, and Surgeon in Ordinary to the King." The extended reputation of Mr. CRAMPTON as a surgeon, will suffer no diminution from a perusal of the histories of these cases; which have been already transferred to the surgical department of our Quarterly Summary. (vol. iv. p. 186—90.) The author concludes his paper by the following remarks:

> "Without venturing to define the cases in which excision of the joint is to be preferred to amputation of the limb, I think I may venture to predict, that, if I should be so fortunate as to direct the attention of the profession to the subject, a great number of limbs will be preserved, which otherwise would have been sacrificed, and that, before long, in the *generality* of incurable accidents and diseases of the shoulder, elbow, and ancle joints, excision of the joints will be preferred to amputation of a limb; and even in the knee, the operation of excision will *sometimes* be considered more eligible than amputation of the thigh."

For ourselves, we must confess that we are not so sanguine, in our hopes of the successful result of excision of carious joints. Mr. CRAMPTON succeeded completely, in a case of diseased elbow; cutting off the lower extremity of the humerus; but the articulating surfaces of the radius and ulna were healthy, and he contented himself with removing the olecranon, the cartilage covering which was partially eroded. In the operation of the excision of the knee-joint, he found it necessary to saw off about four inches and a quarter of the lower end of the femur, and to pare away about half an inch of the head of the tibia. The patient, a female, was discharged from the hospital, thirteen months afterwards, (June, 1824,) in very good health; but no bony union had taken place between the femur and tibia. In the winter of 1825—6, she was again in a wretched state of health: she had no pain in the limb, but there was a general thickening about the joint, as if the disease had been reproduced, and the sinus of the ham continued to discharge a thin, whey-coloured matter. She died in the month of July, 1826, just three years and two months after the operation. Mr. Crampton in his 'Observations' on this case holds the following language.

> "It is plain that this operation, so far, at least, as related to the preservation of the uses of the limb, completely failed. It served to prove, however, in the most satisfactory manner, that the excision, even of so large an articulation as the knee-joint, might be performed with safety; and gave strong grounds to hope that, under more favourable circumstances, the operation might be attended with success."

His expectations were realized in the next case, of a young woman, aged 22, presenting no peculiar marks of a strumous habit. The operation for excision of the extremity of the femur, and removal of the patella, and paring away the greater part of the articulating cartilage of the tibia, was performed on the 4th of August, 1823. In the month of October, 1824, the woman walked a distance of nearly five miles. She was in excellent health—the limb perfectly firm, though bowed outwards. In November, 1824, Mr. C. saw her, and found the limb perfectly consolidated.

We have seen but two cases of excision of carious joints, both of these of the elbow. In one, the operation was performed by M. Dupuytren at the Hotel Dieu, in the early part of the summer of 1819, on a young man of a scrofulous habit. After four months had passed, M. D. thought it adviseable, on account of the irritation and discharge from openings where the two ends had imperfectly united, to amputate the limb at the middle of the humerus. A deep abscess, extending down the fore-arm, was discovered. The second was also a young man in La Charité, operated on, about the same time, (June 30th,) by M. Roux. After the lapse of a twelvemonth, he was still in the hospital, with his arm discharging, owing to the formatien of successive sinuses. Our departure from Paris prevented our seeing the termination of this case, nor have we learned its history since.

The next paper is "*On the Form, Construction and Use of a Cataract Needle of a particular Description, employed by* Arthur Jacob, M. D., Member of the Royal College of Surgeons in Ireland; Surgeon to Sir Patrick Dun's Hospital; and Lecturer on Anatomy and

Surgery in the Medico-Chirurgical School, Park Street." Prior to his giving a description of his cataract needle, Dr. Jacob recapitulates the arguments which have been used, in favour of that operation to which he considers his instrument as particularly applicable. The operation here alluded to, is that of opening the texture of the lens, to produce its absorption, by exposing it to the action of the aqueous humour. The fact, that cataract may be removed by absorption in this way, was first pointed out by Mr. Pott; and the suggestion has been since repeatedly carried into effect, first by Mr. Saunders, and afterwards by many distinguished oculists. The arguments in its favour are, the facility of the operation, and the little injury inflicted on the organ, so that it may be repeated frequently without injury. The question often agitated, respecting the choice to be made between the anterior and posterior operations—that is, to say, whether the needle should be introduced anterior to the iris, through the cornea, or posterior to it, through the sclerotica, is not yet settled. Mr. Saunders says, the surgeon has more power in the posterior than the anterior operation; but *the latter excites less pain and inflammation*, and inflicts a slighter, if any injury on the vitreous humour. Dr. Jacob gives it the preference. He reprehends the practice of Sir W. Adams, of breaking down the lens, and placing the fragments in the anterior chamber, to accomplish their solution and absorption; and gives, as a contrasted opinion, that of Mr. Saunders, that the process of the absorption of the lens is best accomplished in its natural position. The common period for the cure of congenital cataract by this means, is, according to our author, from two to five months; and the number of times in which the operation is performed, must, of course, vary from one to five.

To attain the desirable objects, of fineness of point, and curvature at the extremity of the instrument, and of a form, such that the aqueous humour shall not escape, and no mark be left on the cornea, Dr. Jacob recommends a fine sewing needle, curved at the point. His preference is founded on having used it in about forty operations. He could produce examples, where it has been three times introduced, and where not the slightest speck on the cornea can be detected. The chief difficulty in the use of the round needle, is the force which is required to pass it into the cornea; but this is soon surmounted by a little practice.

> "The size of the needle is known in the shops as *number seven;* being the forty-fourth part of an inch in diameter, and about one half the size of the finest SAUNDERS's needle which is made. The point can be turned to the requisite curve, by means of a pair of cutting forceps, or the ward of a small key; of course, without heat, which would destroy the temper."

Not more than ten in a hundred needles will bear bending thus; but when once turned, they retain the curve without any danger of breaking or bending.

> "They should always be tried before use, by passing them repeatedly through thick calves-skin leather. After they have received the requisite curve, the point should be cut flat on each side, on a fine hone, and carefully examined with a magnifying glass to ascertain that it is perfect.
>
> "After the point has been turned, the needle, held in the jaws of a pair of pliers, or a vice, is to be run down into a cedar handle, without cement; leaving only *half an inch* of blade, which I have found to answer every purpose."

The handle should be about a fifth of an inch in diameter, and four inches long. The same needle has been used a dozen times without sharpening. Those using the instrument for the first time are recommended to choose one slightly curved.

Dr. JACOB, in place of following the usual advice of ophthalmic surgeons, to operate on the right eye with the left hand, supposing the operator to sit in front of the patient, prefers standing behind, with the head resting against his chest. We have not room for other details, respecting the occasional difficulties and dangers attendant on this operation; as most oculists are apprized of, and prepared for, such obstructions in the way of their success.

We have, by the same author, "*Observations, respecting an Ulcer of a peculiar character, which attacks the Eyelids, and other parts of the Face.*" This disease is peculiar in its nature, and not to be confounded with genuine *carcinoma*, or with the disease called *lupus* or *noli me tangere*. The author tells us more frequently what it is not than describes clearly what it is. He thinks it will bid defiance to all remedies short of extirpation. He has tried, internally, alterative mercurials, antimony, sarsaparilla, acids, cicuta, arsenic, iron and other remedies; and locally, simple and compound poultices, ointments and washes, containing mercury, lead, zinc, copper, arsenic, sulphur, tar, cicuta, opium, belladonna, nitrate of silver, and acids, without arresting for a moment the progress of the disease.

Following this is a "*Second Communication, relative to the Fatal Consequences which result from Slight Wounds received in Dissection.* By A. COLLES, M. D., one of the Professors of Anatomy and Surgery in the Royal College of Surgeons in Ireland." This paper mainly consists of an account of the case of a Mr. Shekelton; who, on the 28th May, 1824, pricked himself with the point of a knife, while examining the body of a man who had died of peritoneal inflammation, consequent on the operation of lithotomy. On the following evening, Mr. S. felt himself unwell. On the 21st, Mr. CUSACK accidentally saw him, and found some of the glands swelled in the left axilla. On the 22nd, the condition of these glands was much improved; but, on the morning of the 23d, there was a return of swelling, with hardness, anxiety, and pain along the course of the ulnar nerve, and down the left side of the thorax. The disease continued to increase in violence; and, on the evening of the 25th, a red spot, of the size of a shilling, appeared on the right patella; accompanied by the severest torture in the knee, referred by the patient to the cavity of the joint. During the night of the 26th, a large red and swollen patch was observed over the right tibialis anticus muscle. On the 27th, he complained of pain of his left arm, with considerable swelling of it, and of the fore-arm. Yellowness of skin was now universal, and more deep than before; adnatæ of the eyes very yellow; countenance more sharp and contracted; tongue covered with a thick coating of white mucus. During the night he passed a large quantity of urine, of a peculiarly dark brown colour. And, though twice he was supposed to be dying, yet he soon after càlled for solid nourishment; ate a tea-cup-ful of panada, and took the yolk of an egg, beat up with brandy.

He died at nine o'clock, on the 28th, ten days after the accident.

Waving, for the present, all discussions respecting the precise nature of the inflammation of which Mr. Shekelton died, we can only give the plan suggested by Dr. COLLES, in such cases. It consists in the administration of calomel, in an uncombined form, and in doses of three grains, every three or four hours. When administered in this manner, it seldom fails to produce salivation in thirty-six, or forty-eight hours; provided that the two or three first doses affect the bowels. If they do not, some purgative must be combined with the calomel, or occasionally interposed.

"*Cases of a Fatal Erethism of the Stomach, with Observations.* By JOHN CHEYNE, M. D., Physician General." The detail of these cases, as furnished by Dr. CHEYNE, possesses considerable interest; not on account of any novelty or success in therapeutical treatment, but as justifying fully certain inferences, which the ever busy polypharmaceutical physician will do well to hold in mind. Of the propriety of the title, Erethism of the Stomach, we are not well assured; nor do we profess to understand what is meant by the phrase of the tongue "becoming gradually *angry* at the edge." The three first cases, designated by the author as A, B, and C, were marked by obstinate and incurable irritability of the stomach, and a vomiting of ropy fluid, of the colour of verdigris, —thirst urgent—abdomen without pain, tension, or tenderness, except in case C, in which pressure on the stomach caused uneasiness—and the pulse, variable, hard, and frequent in one, and but little altered in the others. The first was an athletic young man, nineteen years of age, of an ardent disposition, and sanguineo-choleric temperament; who was taken ill on the 11th of August, 1818, and died on the 24th. On the 23d, he had black vomit; hæmorrhage from the nose and throat; and blood passed by stool. The second was a case of a young lady, seventeen years of age, who died on the fifth day of the disease: her tongue was white, the edges were clean and florid, and the throat was sore. The third case, age not given, died in ten days after Dr. CHEYNE had been called in. He had, however, been affected with occasional sickness and vomiting of every kind of food, for fourteen days preceding. His tongue was swollen, furred, and dry in the centre—throat inflamed, and towards the conclusion, became completely aphthous. Bleeding at the arm, at first of 30 oz., and afterwards, 16 oz.; opium and calomel; saline preparations; blisters; laudanum, by the mouth, and in glysters; saline draughts; infusion of mint; leeches to the abdomen, &c.; "all, and many other remedies and nostrums, in vain," were had recourse to in the first case. Twenty leeches to the abdomen were the chief remedial means in the second. Blisters to the epigastrium and abdomen; leeches to the anus; enemata; lemon ice, and iced water in sips or mouthfuls, were the means chiefly relied on in the third case. In the subject of this last alone, was post mortem examination instituted.

> "The body was emaciated; the abdomen retracted. The gall bladder was full of dark bile; the stomach, large and flaccid, contained nearly a pint of green fluid. Its mucous membrane presented a peculiar appearance; the veins were unusually turgid; the surface, particularly at the great extremity, was of a dark mahogany colour; the colour was owing to a vascular distension, and general extravasation into the sub-mucous tissue. The same appearance of vascular distension and extravasation, but in a less degree, was observable in the intestines. The mucous membrane of the œsophagus was of a deep red colour, and highly vascular."

The fourth case, D, was of a young gentleman, twenty years of age, of a choleric temperament, narrow chest, and muscular limbs. He was taken sick on the 30th of May, and was convalescent on the 3d of June. The pain of the abdomen, not very acute, was increased on pressure, and attended with sickness, and vomiting of a bright green fluid, which frequently recurred in the course of the night. On the next day, (May 31st,) the pulse was about 86; the tongue furred and rather swollen, but moist: he vomited between a pint and a quart of an amber coloured fluid, in consistence like melted jelly, which he said was tart, but not bitter.

The subjects of these cases were three brothers and a sister. The family to which they belonged, consisted of six children, two of whom had died of the same complaint, as far as Dr. Cheyne could learn by inquiry; and it is further remarkable, that the father of this family died in a similar manner. The green fluid vomited by the above patients, was, as Dr. C. thinks, the product of the stomach, and not of the liver. Summing up his opinion of the treatment which he pursued, he does not think blood-letting was advantageous in case A, any more than salivation, which was produced in the same case without any decided benefit. In case B, the patient seemed to sink from the effusion of blood; an occurrence by no means unusual, when bleeding after the application of leeches is not timely suppressed. The following sensible remarks are those to which we had more special allusion when speaking of the lovers of polypharmacy.

> "Having had many opportunities of seeing the irritable stomachs of children, (which purgatives often only exasperate, and thus perpetuate and extend,) brought, in a day or two, to a quiescent state by mere abstinence,

by restricting the patient to water, or weak lemonade in small quantities, and occasionally giving a few grapes, a mode of practice, which, when there is no fulness of the hypochondria, will sometimes be found eminently successful, I resolved, when I came to treat the subject of case D, to give him no active medicine; and had he not been anxious to take the solution of Rochelle salts, with soda and lemon juice, as finding it grateful to his stomach, my intention was to apply blisters and extensive fomentations, to have enemata administered, to permit him to drink lemonade sparingly, and to withhold all medicine by the mouth."

Dr. CHEYNE does not mean, however, by these observations, to advocate inertness in the treatment of genuine inflammation of the stomach; with a case of which he furnishes us, where he had the patient bled to the amount of upwards of 60 ounces in twenty-four hours.

"In idiopathic inflammation of the internal surface of the stomach, or when that surface becomes inflamed, in the progress of dysentery, gout, or other diseases, I have often directed entire abstinence from medicine of every description, and from fluids even of the blandest nature; until the inflammation has been removed by bleeding, blistering, fomentations, &c. In truth, the inflamed stomach is often incapable of retaining even a spoonful of cold water; and at first every description of medicine produces an aggravation of sickness, vomiting, and general distress. In such cases, I have repeatedly witnessed the good effects of restraining the patient from drinking, and of withholding medicine for one, or even two days.

"If thirst be urgent, as is often the case in inflammation of the mucous membrane of the stomach,—most painfully urgent it often is,—it may be assuaged by one mouthful of water, or by putting a bit of ice in the mouth: if there is much *dry retching*, a drink consisting of water, lime water, and milk, in equal proportions, may be given, which, while it quenches thirst, will sometimes lessen the straining to vomit: if these things fail, we may try a remedy of an opposite kind, namely, weak lemonade, which will often give great relief.

"The same method is applicable to excessive irritability of the stomach in continued fever, when that symptom arises from an inflammatory state of the mucous membrane of that organ; which may take place, either with the epigastrium and hypochondria tumid, or without the slightest fulness of the abdomen. In either case, before we prescribe purgative medicines, let us consider well whether they are likely to produce a *salutary* increase of secretion; or whether it would not be better, before having recourse to these, first to reduce the inflammation of the stomach by leeches, fomentation, blisters, and enemata."

This last is perhaps a fortuitous coincidence of opinion, rather than an echo, of that of the BROUSSAIS or physiological school.

The blisters would most likely be objected to by the latter; who might perhaps be also tempted to add, that the reduction of the inflammation of the stomach would be so complete by the use of leeches, fomentations, enemata, and diluents, as not to call for, except *pro formâ antiquâ*, the administration of purgatives at all.

Dr. CHEYNE, in a note, corroborates what has been often said before, viz. that very acute inflammation of the mucous membrane of the intestinal canal, often exists without tension, or the slightest tenderness of the abdomen. He enumerates certain diseases, with some one of which many members of families were affected, in whom there was an exalted strumous diathesis. These are *hydrocephalus*, *mania*, *epilepsy*, *creeping palsy*, *consumption.* There is not, we believe, any novelty or doubt in facts of this nature.

The "*Case of a Remarkable Pulsation in the Veins*," recorded by CHARLES DAVIS, M. D., member of the Royal College of Surgeons in Ireland, and Surgeon to the North East Dispensary, Dublin, is interesting, both to the practical physician, and the experimental physiologist.

> "The pulsation in all the veins was distinct and well marked, synchronous with that of the arteries; and, in the veins of the extremities, perceptible to the eye, even at the distance of two yards.
>
> "The veins were rather larger than is usual at her period of life: and pressure upon any of them stopped the pulsation between the part compressed and the heart; so that it obviously could not be caused by regurgitation from the auricle.
>
> "The pulsation of the heart was somewhat stronger than usual at her age; the pulsation of the veins was softer than that of the arteries; and was completely stopped on compression of these latter vessels."

The subject of this case was a female child, aged six years, who was suffering, at the time, from acute hydrocephalus; of which she died, 28th June, 1826.

On dissection, "the vessels of the pia mater, particularly towards the base of the brain, were somewhat fuller of blood than is natural; and the substance of the brain little, if at all, softer than is usual at this period of life. The ventricles contained at least 4 oz. of transparent fluid; and the choroid plexus seemed pale, as if macerated. The pericardium contained a small quantity of serous fluid; and the left ventricle of the heart was somewhat enlarged, and firmer than natural: all the other viscera of the thorax and abdomen healthy. The arteries had been injected; but presented no preternatural communication whatever with the veins; neither could any artery be discovered in the immediate vicinity of these latter vessels, which could throw a doubt on the fact, that the pulsation had been continued from the heart, through the arteries and capillaries to the veins."

In this case we see a confirmation of the doctrine, which teaches the paramount influence exerted by the heart in the function of the circulation, and that all other agencies are of a purely accessory and secondary nature.

Dr. Crampton, Professor of Materia Medica; Honorary Fellow of the College of Physicians; Physician to Steevens's Hospital, &c. &c., gives us a paper containing an account of a "*Case of Unusual Constipation.*" The subject, a female, had a slight attack of scarlatina, and is of a phthisical habit and appearance.

"She is now in her 37th year; and has been in the state described, for the last seven years. For the last eight months, she has had no passage from the bowels, and only two or three during the preceding year; and she scarcely passes any urine. There is no possibility that any deceit can be practised; as she sleeps in a room with a confidential attendant, and is watched closely by her parents and sister. She never makes the slightest locomotive exertions with her lower limbs; but has the complete muscular power of the upper extremities."

Dr. Crampton gives some cases analogous to this one.

Following this is an "*Account of an Unusual Variety in the Femoral Artery.* By John Houston, Conservator of the Museum, and Member of the Royal College of Surgeons in Ireland." We deem it needless to present the details of this anatomical curiosity to our readers. Such a deviation from the usual situation and distribution of the artery, must, doubtless, increase the difficulties which the surgeon will have to encounter in operating: but, as he cannot be apprized of such an anomaly by any known external signs, he must only, in this, as in all sudden and unforeseen cases, be calm and collected, and ready to modify his practice, according to the exigencies of the moment.

"*A case of Un-united Fracture of the Tibia, treated successfully by the Seton.* By John Brown, Esq., M. D., Surgeon to the County of Meath Infirmary, &c." was referred to in our Surgical department for the 4th vol. p. 190. We could have wished that Doctor and Squire Brown (why the first is not sufficiently honourable for a medical man, we are at a loss to a conjecture) had distinctly avowed the obligations of modern surgery to Doctor Physick, for his introduction and successful use of the seton to promote and effect the union of a fractured bone.

"*Description of a Human Stomach of a Singular Form and Structure.* By John Hart, Member of the Royal College of Surgeons in Ireland, Demonstrator of Anatomy at the Park Street School of Anatomy, &c." In this *actum curiosum naturæ*, the left extremity of the stomach had its usual appearance as to form and size; but the right extremity, instead of contracting until it became continuous with the duodenum, after the ordinary way, ended in a cul-de-sac, about half as large, to appearance, as the great end of the left extremity. The duodenum proceeded from a depression, which marked the less arch of the stomach, about mid-way between its cardiac orifice, and the most remote part of its right extremity. The reporter did not know the history of the individual whose stomach was thus constituted.

We have already noticed (see vol. iv. p. 415, of this Journal) the paper entitled, "*Observations on an Affection of the Mouth in Children.* By Thomas Cuming, M. D., Licentiate of the King's and Queen's College of Physicians, Assistant Physician to the Institution for the Diseases of Children, and one of the Physicians to the Wellesley Fever Hospital."

Next follows "*A case of Ruptured Cæcum, which terminated in Death, forty-eight hours after the accident.* By John Speer, Surgeon to the Essex Convict-Hulk, Kingstown, Dublin." The sufferer, named Burn, in wrestling with a man, whom he had thrown to the ground, fell, with his abdomen on his antagonist's knees, which were bent upwards; and received a violent contusion, chiefly on the region of the umbilicus. According to his own account, he felt as if something had given way internally; he fainted immediately, but soon recovered, complaining of severe pain in his abdomen, with vomiting. These symptoms continued until his death. On dissection, was found, an aperture in the cæcum of about two inches in circumference, with uneven, ragged edges, and evidently the consequence of the fall he had received: it was surrounded with marks of extensive inflammation; as were all the small intestines, on whose surface several layers of coagulable lymph had been deposited in different places, forming a false membrane of a soft texture.

"*Cases of Diseases of the Heart, accompanied by Pathological Observations.* By Robert Adams, A. B., Member of the Royal College of Surgeons in Ireland, and one of the Surgeons to Jervis Street Infirmary, &c." This is a very valuable paper, in which the author evinces powers of observation and industry, which cannot but be highly creditable to himself, as they will assuredly be to the profession. His references to other pathological inquirers and writers are apposite; and serve to illustrate, without ostentation, his own opinions and practice.

His plan is to consider, first, some morbid affections of the membranous coverings of the heart; secondly, those changes which he has observed its muscular structure to undergo; and lastly, to describe and exemplify by cases, those organic alterations of the auricular and arterial openings of the ventricles, which he has remarked as, more than all others, deranging the function of the circulation."

I. *Morbid Affections of the Membranous Coverings of the Heart.* After pointing out the structure of the pericardium, as belonging to the fibro-serous class of membranes, and composed of two layers, differing from each other widely in their structure and uses, and very differently affected by disease, Mr. Adams goes on to speak of the morbid affections of the outer layer or *fibrous membrane.* Like the dura mater and fibrous membranes, generally, this is liable to ossification. Mr. A. relates a case of this nature, which he had an opportunity of verifying by dissection. The heart was encircled, or nearly so, by a zone of bone, about three inches in thickness, and more than an inch in breadth.

Under the head of "*Morbid Affections of the Serous Membrane,*" our author treats of pericarditis in its acute form, and by *metastasis of acute rheumatic inflammation from the synovial membranes of the extremities to the serous membrane of the heart.* Here he cautions us against confounding simple rheumatism of the muscular structure of the heart, with rheumatic inflammation of its serous membrane. We have doubts about there being any such malady as rheumatism of the muscular tissue of any part. We believe that, in all the alleged cases of this nature, it is the aponeurotic sheaths of the muscle or envelopes of the muscular fibrils which are the seat of the inflammation. The difference then, to our minds, between carditis and pericarditis, is in degree, and not in kind; the former consisting of an inflammation of isolated aponeurotic and cellular connexions of the muscle, the latter of an extended and continuous membrane.

> "Erysipelas undoubtedly affects the heart. I have myself known," says Mr. ADAMS, "two cases of erysipelas of the head and face, which terminated fatally, by metastasis to the heart. In one, the erysipelas succeeded to a wound in the head; in the other, it came on spontaneously. In both, as soon as the external redness receded, the breathing became distressed, the countenance agitated, and rest in the horizontal position impossible."

II. *Of Changes Affecting the Muscular Structure of the Heart.* Cases are given of *active enlargement of the heart without any valvular disease*, which terminated fatally, and their precise nature ascertained by dissection. The details of the symptoms and treatment, though interesting, cannot, for want of room, be laid before our readers.

In the second case, great benefit, for a time, was derived from rigid abstinence and a strict antiphlogistic regimen, the least departure from which brought back a renewal of the symptoms. The pulse was, in both, strong, full, and vigorous, and for the most part, regular.

The next case strikingly elucidates the connexion between apoplexy and active enlargement of the heart. The subject of this case had, in February, 1822, an apoplectic seizure; from which he was recovered by free venesection. In April he was again taken alarmingly ill—his countenance ghastly, his pulse weak and rapid, his extremities cold. He lived but fourteen hours.

Dissection exhibited the brain of a yellowish colour, and somewhat looser in its texture than natural; but there were no apoplectic cells, no effusion of blood, nor appearance of there ever having been any sanguineous extravasation. There was discovered a rent in the aorta about a quarter of an inch in length, from which blood had escaped into the pericardium. The whole heart was greatly enlarged, and the left ventricle was much increased in thickness; the heart was otherwise natural, and the remaining viscera were sound.

A case is furnished by Mr. ADAMS, of a person who, during a period of seven years, had at least twenty apoplectic attacks. After death, the heart was found in a great measure converted into fat. The liver was natural; the vena portæ was unusually distended.

Of Rupture of the Heart, Aneurism, and Rupture of the Chordæ Tendineæ. Cases illustrative of these organic alterations are given by our author. He remarks that

> "There is no disease more familiarly spoken of than aneurism of the heart; yet the affection which is with propriety so denominated, is exceedingly rare."
>
> "III. *Of Organic Changes affecting the Arterial and Auricular Openings of the Ventricles.*"
>
> "The arterial and auricular openings of the ventricles are liable to contractions; which are invariably combined with some cartilaginous or osseous depositions. Such alteration in the structure of the heart, disturbs the circulation in a very remarkable manner, and produces great derangement in the functions of almost every organ in the body."
>
> "This is a disease, [narrowing of the left auriculo-ventricular aperture] which, according to my observation, shows itself at all periods of life, occurring in the young as well as the old; and unlike other diseases of the heart and vascular system, it manifests itself as frequently in the female as in the male. The signs of this complaint, in its first stages, are so vague and equivocal, that they are usually set down as nervous complaints: unfortunately the prognosis is generally unguarded, and a line of treatment calculated to aggravate rather than relieve the organic disease, is prescribed."

The author proceeds to give the history of two cases,

> "in which the patients were suddenly carried off early in this disease, the one by apoplexy, the other by epilepsy; which were evidently the consequence of the difficult transmission of blood through the left side of the heart, by which the functions of the brain were so disturbed that these fatal effects were produced."

When the disease is fully established, the signs of the contraction of the left auriculo-ventricular opening are by no means doubtful. Of these we may indicate paroxysms of dyspnœa, hæmoptysis, uneasiness in lying in any but one position, irregular and widely extended palpitations of the heart, anasarca and ascites as the disease advances, strong pulsation in the jugular veins, and a general thrill through the branches of the arterial system, as in aneurisms; and when the ear is attentively applied to the thorax a hissing, purring noise is heard, caused by the transmission of blood through a narrow orifice.

> "The more decided symptoms of this affection are to be found in the peculiar irregularity and want of correspondence in the pulse, as felt at the

wrist, and examined simultaneously at the heart: the latter often beats so violently against the sides of the thorax, as to shake the patient in his bed; while, at the same time, the arterial pulse is small, weak, and irregular: indeed, such is the state of the pulse in the arteries, that the physician, attending to this only, and overlooking the state of the heart, might readily suppose his patient in the last extremity, and dread to have recourse to those remedies, from which alone any relief is to be expected."

The pulse at the wrist

> "appears to the person examining it as if there were two pulses; one slow and deliberate for two or three beats, which is succeeded by three or four rapid and indistinct pulsations; the heart upon the whole generally pulsates ten or fifteen times in a minute more than the artery, and its stroke is often more distinct in one arm than the other."

We are presented in this paper with a case of complete ossification of the Coronary Arteries of the Heart and of the Aortic Valves; the details of which we regret not having it in our power to transcribe. We could willingly and profitably keep company for a much longer time with Mr. ADAMS than we have done; but to give room to our friends requires our retiring from the field.

In proffering our best wishes to Dr. MARSH, whose paper "Upon the Origin and Latent Period of Fever," follows next in order, we can assure him of our intention to notice his production at the very first opportunity, perhaps even in the present number of the Journal.

The space already occupied in our analysis of Dr. CUSACK's paper, on Amputation of Portions of the Lower Jaw, precludes our reviewing, as its merits require, the report entitled

"*Cases of Excision of a Portion of the Lower Jaw, for the Cure of Osteo-Sarcoma affecting that Bone; with some Observations on the Pathology of Osteo-Sarcomatous Tumours.* By PHILIP CRAMPTON, F. R. S., Surgeon General to the Forces in Ireland, and Surgeon in Ordinary to the King."

The concluding remarks are as follows:

> "But whatever may be thought of the *explanation*, to which indeed I am not disposed to attach any great importance, the *fact* may, I believe, be considered as well established, that, of the tumours which proceed from the *cancellated* structure of the bones, some are of a *malignant nature*, closely allied to cancer, or to fungoid disease, and, like those diseases, so prone to contaminate the constitution, as well as the parts with which they are in contact, that the removal of the diseased part rarely serves as a protection

to the system from a return of the disease; that others, on the contrary, are without any character of malignancy, and so purely local in their nature, that where the removal of the whole of the disease, however extensive, can be effected, the operation may be undertaken with the best prospect of affording permanent relief."

Our readers are referred to the 4th vol. p. 181-2, of this Journal, for a sketch of the paper, in the Hospital Reports, entitled,

"*A Case of Cynanche Laryngea, in which the operation of Tracheotomy was performed in March*, 1825, *and a Canula worn, up to the date of this Report.* By Francis White, Member of the Royal College of Surgeons in Ireland, and one of the Surgeons of St. Mary's Hospital and the Dublin Eye Infirmary."

> "It is now, says Mr. White, two years since the operation was performed; and the patient, whom I saw this day, (March 17, 1827,) has, during that time, worn the tube without any inconvenience, or being in the least prevented from working at his trade."

"*A Brief Notice of the Effects of the Vapour Bath in Tetanus.* By H. Marsh, M. D. M. R. I. A. Assistant Physician to Steevens's Hospital, &c. &c." Of three cases of tetanus, in which the vapour bath was employed, two recovered. In one of these, calomel and opium in succession had failed to produce any effect; and, in the other, ptyalism, induced by the two remedies conjoined, failed to mitigate the disease. These were the two recovered cases. In the first, croton oil internally, and belladonna and oil of amber along the spine, were used at the same time with the vapour bath. Dr. Marsh concludes thus:

> "The mode of treatment, then, which appears to me to deserve further trial, consists in placing the patient, for many successive hours, in a vapour bath of a low temperature; and, at the same time, in powerfully upholding and supporting his strength."

The "*Account of a Remarkable Production resembling a Tail, which was attached to the extremity of the Vertebral Column of a Man;* by Arthur Jacob, M. D. &c. &c.," when taken in connexion with some other parallel cases, seems to give some plausibility to the opinion of my Lord Monboddo, that the human species had been originally endowed with the appendage of a tail, which it had lost by civilization. Instances of tail-bearing men similar to that described by Dr. Jacob, are recorded by writers worthy of credit.

Here we conclude our analysis of the Fourth Volume of The

Dublin Hospital Reports; the labour of which has been to us not only comparatively light, but productive of pleasure, on account of the strong good sense and powers of discriminative observation which prevail throughout the work. * * * *

ARTICLE XIV.—*Traité de la Maladie Scrophuleuse. Ouvrage couronné par l'Académie Impériale des Curieux de la Nature.* Par C. G. HUFELAND, Médecin du Roi de Prusse, et Conseiller d'Etat. Traduit de l'Allemand, sur la III me edition, 1819; et accompagné de notes, par J. B. BOUSQUET, Membre de la Societé de Médecine de Paris, &c. Suivi d'un *Mémoire sur les Scrophules, accompagné de quelques reflexions sur le Traitement du Cancer;* par M. LE BARON LARREY, &c. A Paris, 1821, 8vo. pp. 398.

AMONG those affections that have been called Opprobria Medicorum, the disease treated of by professor HUFELAND, in the above named work, is certainly not the least deserving of that melancholy appellation. The king's evil frequently baffles the skill of our most learned and accomplished practitioners. Nay, the very name, king's evil, gives sufficient assurance of its rebellious nature. The miracle of the royal touch would never be resorted to for the cure of a pleurisy, or a bilious fever. Miracles are only expected where the resources of art and reason fail.

Elaborate and painful treatises on the nature and cure of scrofula, are very common; and still the treatment, in spite of all that has been said and written on it, continues to be very empirical, vague, and unsatisfactory. Most of the bad cases, or even the slighter strumous affections of the constitution, are sooner or later withdrawn from the superintendence of the regular practitioner, and consigned to the hap hazard ministrations of the quack. Scrofula, syphilis, and cancer, are real El Dorados, where those gentry find gulls and gold, without number and without end.

Professor HUFELAND has long been the editor of a journal of acknowledged excellence; and it is through this journal principally, that his name has been made widely known in the republic of letters. He is a professor at the Medico-Chirurgical College of Berlin, and Director of the Charity in that city. He was born in 1762, and published this work in 1795. It is the principal work that he has published. The motives and origin of the publication, were as follows:

The Imperial Society of Naturalists offered a prize for the best essay, whose object should be

1. To illustrate, by new observations, the nature of the scrofulous acrimony.

2. To point out the most certain diagnostic signs by which the scrofulous virus may be clearly distinguished; whether latent, or developed in various degrees of malignancy, whether with, or without tumours.

3. To show, by accurate observations, to what kinds of scrofula, and to what complications of it with other diseases, the anti-scrofulous remedies hitherto known, are best adapted; and particularly, to show what degree of efficacy is possessed by the muriate of baryta in scrofula and in scrofulous diseases.

In accordance with the provisions of this *programme*, our author divides his work into three sections: of which section I, comprising 83 pages, treats of the nature or proximate cause of the scrofulous disease; section II, in 40 pages, gives a description of the disease; and in section III, we have an account of the treatment, in 212 pages.

In the introduction, Dr. HUFELAND sets up a distinction, between scrofulas, (*scrofules*, *scrofulæ*,) and the scrofulous disease (*maladie scrofuleuse*, *scrofulosis*.)

Scrofulas are swellings of the glands, indicating only a local affection of the lymphatic system; while the *scrofulous disease* consists in a general affection, diathesis, or peculiar disposition, of the lymphatic system, of which scrofulas are often only a consequence or symptom. Scrofulas may exist without the presence of the scrofulous disease, and vice versa. The presence or absence of the former, does not either establish or disprove the presence of the latter. A distinction is also made between true and false scrofulas. Observation has proved, that most diseases affecting the lymphatic system, are accompanied with similar engorgements; and the author cites measles, variola, syphilis, &c.; in which these tumours occur without any scrofulous taint, and are different, therefore, from such as are derived from the scrofulous disease. A deuteropathic, or secondary affection he admits may arise; and this will be a degeneration of a *sympathetic* affection into one possessing the essential characters of this frightful malady.

After these preliminary observations, he proceeds to section first, containing five chapters; of which chapter I, consists of general considerations on the lymphatic system; divided, by Dr. H., into

1, Absorbent vessels properly so called. These vessels are in great multitudes, very minute, transparent, uneven, provided with valves, arising by innumerable radicles from all the surfaces, external, and internal, distributed through all the organs, like the arterial vessels, of which *they are the terminations*, and proceeding to open, for the most part, into the ductus thoracicus. Dr. H. says, "for the *most part*, as many of them communicate directly with the sanguiferous vessels." We may venture here to declare our surprise at the assertion of the author, that the lymphatic absorbents are the terminations of the arterial vessels; an assertion which can only have been made through mistake, since they originate on all the surfaces, and terminate in the thoracic duct, or in the blood-vessels, as he distinctly remarks in the same sentence.

2. The thoracic duct.

3. The lymphatic, or conglobate glands.

Besides its general material, or physical properties, the lymphatic system is endowed with vital active powers different from those of mere matter; and hence the propriety of referring not only to its physical, but also to its vital forces, such as erethism, spasm, convulsion, paralysis, &c., to which it, like other systems, must be obnoxious.

Absorption takes place from the cavity of the alimentary canal, from the cutaneous and bronchial surfaces, from the interior of the cavities, from the cellular interstices, and from wherever there exists an absorbing apparatus, in muscles, glands, &c.

Dr. Hufeland regards the office of those absorbents which arise in the glands, as the resorption of the lymph; in consequence whereof, it must be again mingled with the blood of the general circulation, previous to any final act of nutrition. He expresses the opinion, that absorbent vessels exert a great vitalizing influence on the products of chylous absorption; since it is in those vessels that chyle assumes animal properties. If this be so, it is a reasonable inference that a longer contact with appropriate vital surfaces, and a longer subjection to their animalizing influences is provided for in the manner indicated by him.

While he admits the absorbent office of this system, in the collection and transportation of effete matters, to be entirely eliminated from the body, he asserts that one great object of it is to take away from the secretory organs the superfluous products of their functions: thus, they carry off from the liver its superfluous bile, and deposit it on the skin, as in jaundice; and he thinks there is probably such a direct communication between the absorbing vessels and our organs, that fluids may travel from one to another without passing in the route of the sanguiferous vessels. Hence they may transfer poisons from one place, and deposit them in another; as happens with the syphilitic and other infections.

We cannot but dissent from this view of the absorbing apparatus. The author assigns none except pathological reasons for his belief in this independent circulation. The valvular structures observable in these tubes could never explain such powers as he attributes to them. A lymphatic heart is as necessary for such a function, as the heart is for the propulsion of the red blood in its proper tubes. We cannot adopt such a loose physiology.

The influence of the lymphatic system, before alluded to, in the perfecting of sanguification, of which the first step is undeniably taken in them, is a most important consideration. It is manifest, says the author,

> "—that the substances which travel in these vessels, and which are known by the too general denomination of lymph, must consist of chyle, of subtle substances extracted from the atmosphere, and of the detritus or effete molecules of our organs. Under these circumstances, the properties of this fluid may at one time be different from those it has at another.
>
> "All these matters enclosed in the lymphatic vessels, ought to be taken into consideration, to enable us to appreciate the diseases they are subject to, and the causes that produce them. Unhappily, the majority of pathologists have taken into account only the parietes of these vessels; while the fluids they hold are wholly neglected, though they often determine the state of the vessels themselves. During the reign of humoralism, the importance of these fluids was exaggerated, and the solids were scarcely men-

tioned. Now, under the reign of the doctrine of sensibility, the contrary takes place. But truth rejects equally both these kinds of excess."

In chapter II, the author proceeds to treat of the remote causes of the disease; and divides them into three classes. It may be produced by a change occurring either in the lymphatic system, or in the fluids it contains; and the remote causes are, all such as diminish the tone of the solids, particularly those of these tissues; such as exalt its irritability, or benumb its sensibility; and such as occasion a bad chyle to be furnished; these are bad diet, air, &c. &c., derangement of the digestive organs, skin, and lungs. He speaks of the predisposing or principal causes, under several heads: as *Hereditary taint* or aptitude; which is irrecusably established by numerous facts and abundant experience, notwithstanding the arguments that have been brought to bear against the possibility of such a condition; a condition so well known and acknowledged in England, that one of the most important points in the choice of a wife, is to ascertain that she is free from the scrofulous taint.

Sex and age.—Females and children are more liable than others to its attacks.

Weakness of parents, produced by the abuse of the venereal appetite. The child of a very aged father, brings into the world a strong tendency to scrofula.

Syphilis in parents—*The influence of aliments of a bad quality:* and under this head is especially noticed the practice of artificial suckling. So many children are destroyed by the cruel practice of raising them, as it is in general falsely called, by the bottle or spoon, that we take great pleasure in citing his remarks on this particular topic.

"Nothing" says he, "is more prejudicial to the health, than raising children without the breast. I have almost always observed, that children brought up in this way, are more or less disposed to the scrofulous disease. Among all the fluids of the human body, none is more living than the milk. This is proved by the sudden influence exercised by moral affections on the mixture and intimate combination of its constituent principles. In this respect, milk may be compared to the seminal fluid. In the act of generation, this fluid must pass warm from one living body to another, in order to transmit the vital principle with which it is endowed; in like manner, the milk, warm and full of vitality, is, by the presence of its vital priciple, more perfectly adapted to the infant constitution, and is both more nutritious, and more digestible."

He cites also the fresh, healthy, and vigorous appearance of a child nourished at its mother's breast; and the pale, flaccid, and languishing condition of the nursling of the spoon and bottle; and adverts to the comfortable digestion of milk, either sucked directly from the living animal, or drank warm with life, by the expiring victim of consumption, while on the other hand many unpleasant symptoms arise from its use, if the same aliment be taken cold.

Lactation he regards as a provision, by which nature still keeps up, after the division of the umbilical cord, and the consequent cessation of the placental circulation, a direct intercourse between the mother and child. We have no remarks to offer on this singular and poetical hypothesis, except this; that an analogous sentiment has prevailed in all ages concerning the transmission, from one individual to another, of a portion of the vital principle. Hence, the beautiful and rosy Abishag was put to bed with David the King, in order that he might get heat; hence, the dying Barbarossa's legs were attempted to be warmed by a fomentation of healthy young infants—and lastly, hence the common prejudice against permitting a child to sleep with an aged and decrepid nurse.

The author deprecates most fervently, but not so fervently as Cobbett, a diet of *Irish potatoes;* and remarks that scrofula is very common in countries where children are fed on that root. *Polyphagy*, or cramming of children, as is commonly done, may give rise to scrofula, by impeding digestion, and producing an unwholesome chyle. He next details the effects of *bad air;* viz. such as is cold, humid, and dark, as that of England; also, a *variable* atmosphere, and lastly one highly *carbonized* and charged with *animal vapours*, as in cities and manufactories. All these conditions favour the development of the scrofulous diathesis; by their influence on the functions of the skin, by want of cleanliness connected therewith, resulting in weakness, and finally, by the absorption of deleterious principles.

All those things that *diminish the strength* of the *digestive organs;* such as the premature and inconsiderate use of tea and coffee, the abuse of medicines, and certain diseases. He dwells at some length on the abuse of opium and other narcotics in childhood; in themselves evils, but particularly dwelt on in view of the difficulties they threw in the way of proper crises, in those affections where they are employed. We cannot here show at length how opium interferes with the formation of a crisis. Dr. H. asserts, that a crisis depends on the reaction of the system against the morbific cause. Opium, and the narcotics which diminish the vital powers, must necessarily, when abused, prevent the reaction from arising to its just and requisite height, and consequently the disease degenerates, by assuming a chronic and rebellious character. Want of exercise, filthiness, abuse of heat by warm clothing and feather beds, precocious exertions of the intellectual faculties; each in turn receives a portion of our author's attention. To the above, if we add a too early employment of the sexual capacities, depressing passions of the mind, and the abuse of cold, we shall have finished the enumeration of the remote causes of the scrofulous disease; the whole of which extends from page 15 to 41 of the volume.

At page 41 commences the enumeration, or a sort of *catalogue raisonné*, of the *occasional* or *exciting* causes; of which the first is development of the body or *growth*. This process is under the immediate direction of the lymphatic system; as our author very fully explained in the preceding part of the work. When the growth, as in some instances, is exceedingly rapid, the lymphatic apparatus becomes the seat of a considerable irritation, frequently evinced in young persons by the lymphatic tumours, or "growing kernels;" which disappear without treatment or bad consequences of any kind. This kind of effect occurs at the periods of dentition and puberty; and may exercise a considerable influence on the strumous diathesis, which, at those epochs, frequently unfolds the symptoms of scrofula, rachitism, and phthisis.

Seasons.—The spring is more favourable to the development of the scrofulous diseases than any other; in consequence of the sort of universal excitement that takes place at that season in the organic functions, which, operating in a strumous constitution, concurs very much to the realization of its peculiar tendencies.

Mechanical causes, and diseases of irritation are also cited. The imperfect crisis, so commonly observed in the exanthemata, such as small pox, scarlatina, &c. leave behind a considerable irritation of the most unfavourable nature to those subjects. Bad treatment in the above cases—a careless or ignorant mode of curing them, may often be justly blamed as the cause of those incomplete cures and unfortunate metastases, which terminate in the terrible sufferings of the victims of scrofulous disease.

In the 3d chapter begins the consideration of the *proximate cause;* or, as it is more commonly expressed in our days, the pathological nature of the affection.

> "It appears to me, that this cause consists in a profound atony of the lymphatic system, accompanied with a specific irritation of those tissues, and a peculiar alteration in the lymph itself."

He regards therefore, the primitive seat of scrofula as fixed in the solids; which alone can be the subject of hereditation, or of the impressions of irritating and debilitating causes. Irritation and debility form, according to Hufeland, the double or two-fold character of the disease: neither, alone, would be sufficient, since, if it were otherwise, syphilis and scrofula would be one and the same thing. He infers the existence of the debility from many circumstances; especially the disposition it has to attack the weaker age and sex, as children and females; the essentially debilitating nature of its causes; and the fact that tonics only are capable of utterly eradicating the strumous habit: while irritation, on the other hand, is inferred, from the readiness with which scrofula is brought out by slight irritations of the lymphatic apparatus; and from the circumstance that antiphlogistics, which are capable of removing most of the symptoms of scrofula, are yet incapable of rooting out its germ from the constitution.

Our readers will excuse us for offering a remark on this mode of reasoning of the philosophic author; a remark not inconsistent with the highest feelings of respect in us, while we differ very widely from the doctrine he lays down. Scrofula, says he, is a disease of irritation, and its symptoms may be removed by antiphlogistics; but it is also a disease of debility, and its germ, that is the tendency to it, can only be removed by tonics. Irritation, in our view, constitutes a part of inflammation; it both leads to it in the first instance, and sustains it when formed; and, if our antiphlogistics remove inflammation, they only do so by attacking the irritative affection. Now, we conceive, that having removed the cause of the symptoms, or, as we should say, the pathological cause, we have no occasion, in a vast number of cases, to resort to the use of tonics: we mean the use of tonic medicines, in themselves, not unfrequently, the causes of irritative phenomena, which their pressing exhibition can only aggravate, not remove. They are perhaps the most abused class of all the materia medica. Let us get rid of the irritation, and we see, as a general rule, no need for the exhibition of tonics; but we prefer to aid the recuperative tendencies of the constitution by the safer and far more natural regulation of them by means of diet, air, and exercise. The *non-naturals*, as they are called, in a large majority of instances, are the real and only trustworthy tonics. In the hands of Dr. HUFELAND, we should not, perhaps, dread the use of this class; but, for the generality of medical practitioners, they are less safe than the narcotics, or even the much abused class of cathartics. We are willing, nevertheless, to adopt our author's opinion, in regard to the existence of a minus state of what may be called strength or stamina, to which is superadded, irritation: which could not fail to result in the manifestation of phenomena, very different from those we would expect to find from irritation, supervening on either a just, or on a superlative amount of stamina.

[TO BE CONTINUED.]

MEDICAL LITERATURE.

RETROSPECTIVE REVIEW.

ARTICLE XV.—*The Medical Works of* EDWARD MILLER, M. D., late Professor of the Practice of Physic in the University of New York, and Resident Physician for the City of New York. Collected and accompanied with *a Biographical Sketch of the Author.* By SAMUEL MILLER, D. D., &c. New York, 1814, 8vo. p. 392.

THE professional writings of Dr. MILLER were pronounced by Professor RUSH, to constitute "a valuable addition to the medical science of our country." They, undoubtedly, contain much original matter; and, throughout, bear evidence of being the productions of a sound and capacious mind, habituated to a close and philosophical investigation of the causes and nature of disease. Their author, it is well known, was one of those distinguished members of the profession, who, to a serious conviction of the dignity and importance of our science, added an ardent desire, and all the necessary qualifications, to aid effectually in its advancement to truth and certainty; and we cannot but regret that disregard for native talent, which has permitted his writings, in the short space of sixteen years, to fall into almost total oblivion. Being seldom read, and scarcely ever referred to as authority, we should not be surprised if some of our readers have remained, until the present moment, entirely ignorant of their existence.

In place of the cold neglect the works of Dr. MILLER have experienced, had they received a degree of attention adequate to their merits, and had the important views which their author has endeavoured to establish, been more carefully examined, and cautiously tested by those facts which experience has accumulated; in all probability, the medical profession of this country would, long since, have secured to itself the honour of many of those important improvements in the principles of our science, upon which the celebrity of Broussais, and of the French School of Physiological medicine, chiefly depends.

It will, perhaps, be matter of surprise to many, to learn, that early in the present century, the supposition of fever ever existing without "some primary local affection," was strongly contested by an American professor; and that, from the practical chair of an American University, as well as through the medium of a professional journal of extensive circulation, was taught the doctrine, that most, if not all, of what have been termed idiopathic fevers, consist, primarily, in an inflammation of the mucous membrane of the stomach and duodenum; and this, many years before even the name of Broussais had been heard on this side of the Atlantic. That such, however, is the fact, will be fully established by a reference to the work before us, and to the pages of the New-York Medical Repository.

It is from the influence of these circumstances, no doubt, that the medical public in this country were so generally prepared to acknowledge the stomach to be the organ principally implicated in many fevers; and that the "new doctrine," as it has been termed, was received by numbers among us, rather in the light of an acquaintance, than as a perfect stranger, with whom it required time to become familiarized. Hence, also, are we to explain the fact, of its having so rapidly obtained for itself, in our neighbourhood, a host of warm admirers and able defenders.

Dr. Edward Miller was born at Dover, in the state of Delaware, on the 9th of May, 1760. His education was commenced under the eye of his father; who, we are informed, was an excellent classical scholar; and was finished at a seminary, which then enjoyed high reputation, in the village of Newark in his native state.

> "He had," observes his biographer, "from very early life, a peculiar taste for the study of the classics. And being so happy as to fall into the hands of able teachers in this branch of knowledge, teachers who had themselves received instruction from the best European sources, his acquirements in Grecian and Roman literature were much more extensive, and more accurate, than were, at that period, usually made in this country."

On the completion of his academic course, he entered upon the study of medicine, as a pupil of Dr. Charles Ridgely, an eminent practitioner at Dover. Young MILLER was soon, however, convinced that it was not from books alone, but chiefly at the bed-side of the sick, that the knowledge was to be obtained, upon which his reputation and usefulness as a physician would ultimately depend. It was this conviction that induced him, when he had been but little more than two years in the office of his preceptor, to abandon it for the situation of surgeon's-mate, in the United States Military Hospitals; that here, by an immediate superintendence of the sick, he might more completely prepare himself for the important duties of his profession. As a surgeon's-mate, he served rather more than one year, which was spent chiefly in the hospital at Baskingridge, New Jersey. Towards the conclusion of the year 1781, he was induced, by the solicitation of his friends, to accept the appointment of surgeon on board an armed vessel, bound to France. In this voyage, and in that country, he spent near twelve months.

Dr. MILLER carefully improved the opportunity which this visit to Europe afforded him; not only to acquire the French language, which he ever afterwards read and spoke with ease; but, also, to make himself acquainted with, and to collect, some of the best books, and especially some of the best medical books, in that language. He returned to his native country in 1782; and during the winters of each of the two following years, attended the lectures of SHIPPEN, MORGAN, KUHN, and the other medical professors of the University of Pennsylvania.

In 1783, the treaty of peace between this country and Great Britain terminated the connexion of Dr. MILLER with the army and navy; and in the ensuing year, he entered upon the practice of his profession, at the village of Frederica, in the state of Delaware. In a few weeks, however, he removed from thence to Somerset county, on the eastern shore of Maryland; and in 1786, upon the death of his preceptor, he left the latter place, and settled in Dover, where he soon obtained a highly respectable practice.

During Dr. MILLER's residence at the latter place, he was in the habit, we are informed, of visiting Philadelphia, at least once every year. To this annual visit he was induced, not only that he might enjoy the society of his relatives, who resided in this city, but also "that he might have an opportunity of personal and unreserved intercourse with some of the most illustrious physicians then resident in the United States; that he might collect all the new medical and other valuable publications from abroad, which flowed into this literary emporium; and that the various articles of medical news, which his correspondents had failed of transmitting to him, might not wholly escape him."

In 1789, he received from the University of Pennsylvania the degree of Doctor in Medicine.

In 1793, the controversy respecting the origin of that pestilence, the visitation of which had rendered Philadelphia literally "the city of the dead," called forth from Dr. MILLER a letter, addressed to Professor RUSH, and published in most of the American newspapers. In this letter, upon a calm and dispassionate comparison of the testimony in regard to this all important question, he was led to the conclusion, that the disease was of domestic origin; a conclusion, in the correctness of which he was confirmed, by each subsequent occurrence of the yellow fever.

Two years from this period, the metropolis of New York was visited by this same malignant epidemic, and among its victims were numbered many of the most distinguished physicians of that city. The vacancy in the profession thus occasioned, presenting a fair opportunity for the successful exertion of the talents of Dr. MILLER, he was affectionately solicited by his brother to remove to that place; which he accordingly did in the fall of 1796. His abilities were here immediately recognised; and obtained for him a highly lucrative practice, in a space of time much shorter than he could possibly have anticipated.

Soon after Dr. MILLER's removal to New York, the project of a periodical journal, consecrated to medicine, and those several departments of knowledge connected with it, was conceived by Dr. ELIHU H. SMITH. This plan being communicated to Dr. MILLER, and subsequently to Dr. SAMUEL L. MITCHELL, they both agreed to co-operate with the former in carrying it into execution. Accordingly a circular address was laid before the medical public of the United States; and was received with so much approbation and encouragement, that, in August, 1797, the first number of the "Medical Repository" made its appearance.

In regard to this journal, to the pages of which Dr. MILLER was a constant and able contributor, we find the following interesting remarks by his biographer.

> "From this work, as a parent stock, have sprung a number of works of a similar kind, in Europe and America. It is not recollected, by the writer of these sheets, that any periodical publication, devoted to medicine and medical philosophy, that could be said to be of the same nature with the Medical Repository, had ever before appeared. The *Medical Commentaries* of Professor DUNCAN, of Edinburgh, were, in many respects, very different. The *Medical and Physical Journal of London*, was commenced soon after the appearance of the Medical Repository; with the avowal of its editor, that he took the hint from New York. Other editors, in London, Paris, Edinburgh, and Bremen, in a short time, started similar journals; while rival and learned publishers in New York, Philadelphia, Baltimore, and Boston, have been excited to exertions of the most respectable kind, from which there is no doubt that highly valuable results have accrued."

In 1803, Dr. MILLER received the appointment of resident physician for the port of New York. The duties of this officer were, "to watch and give notice of the progress of malignant epidemics, and promptly to adopt such measures as exigencies may require." In the several pestilential seasons which succeeded this appointment, Dr. MILLER, we are assured, "fulfilled the duties of his office with skill, intrepidity, and universal acceptance. His diligence, his firmness, his discernment, his prudence, his mildness, and urbanity of address, and his unwearied perseverance, were all qualifications which fitted him pre-eminently for a place, in which public safety, as well as public feelings and prejudices, were to be so constantly consulted and managed." This important station he continued to hold, until towards the close of the year 1810; when from some political motives he was superseded. In the course of the following year, he was, however, re-appointed; and continued to hold the office until his death.

In 1807, he was called to fill a more elevated station, the duties of which were at once in the highest degree important and interesting. A charter having been obtained for associating the physicians of New York into a college, "for the promotion of professional education upon a regular and enlarged plan," the objects of this association were immediately carried into effect; professorships were instituted in the various branches of medical science, and, in the election of professors to fill the various chairs, that of the practice of physic was confided to Dr. MILLER. He entered upon the duties of his appointment in the month of November following.

"He by no means regarded this professorship as a mere title of honour. Strict fidelity to every trust reposed in him, was one of the first articles in his moral and professional creed. He therefore began immediately to prepare himself for that course of public instruction which his office demanded; and it proved such as his talents, his learning, and his zeal had taught his friends to expect. 'His lectures,' says one who is a competent judge, 'were highly commended by his hearers, as combining much instructive matter with an unusually agreeable manner.' And another, no less competent, pronounced them to have been 'probably among the best specimens of public medical instruction ever exhibited in our country.'"

In the year 1809, Dr. MILLER was also appointed one of the physicians of the New York hospital, and soon afterwards clinical lecturer to that institution.

From various parts of the United States, he received numerous and flattering testimonies of respect. He was elected, in 1805, a member of the "American Philosophical Society," at Philadelphia. His name was also enrolled as an honorary or corresponding member of the principal medical societies throughout the union. While the numerous letters which were addressed to him from all quarters, communicating medical intelligence, or soliciting professional advice, furnished decisive evidence of the large share of public confidence which he enjoyed, and of his growing reputation.

"Thus occupied in public and private business, accumulated to such an amount as scarcely to leave him an hour of repose, either by day or by night, he was arrested by that iron grasp of disease, from which he had so often been the means of disengaging others; and, to the grief of all who knew him, sunk under its power." On the 22nd of February, 1812, he was obliged to keep his room, in consequence of a severe attack of pulmonary disease: after two weeks of suffering, his complaint appeared gradually to abate, and the most flattering hopes of his recovery began to be cherished; but at the moment when every idea of danger had been dismissed, he suddenly relapsed; and died, on the 17th of March, 1812, in the fifty-second year of his age.

With respect to the character of Dr. MILLER, we can only spare sufficient space to add, in addition to the hints contained in the foregoing sketch, that in him were joined, to a strong and highly cultivated mind, perfect soundness and purity of heart; he being equally noted for his moral worth, as for his literary and scientific acquirements. Two circumstances are related of him deserving of universal imitation: we allude to the purity of his conversation, its entire freedom from lasciviousness, and every expression even bordering upon indelicate; and his strict sobriety. "He seldom drank any thing stronger than water; and he discouraged, as far as possible, the use of ardent spirits, both by precept and example."

The volume of his works, the title of which is placed at the head of this article, consists of a variety of essays on different topics connected with the science of medicine. The majority of these essays appeared originally in the "Medical Repository;" of which journal, as we have seen, Dr. Miller was one of the editors. Subsequently to his death, they were collected into a volume and published by his brother; at the earnest desire of Dr. Rush, between whom and their author, there had existed "the most intimate and endearing friendship."*

The first article, with the exception of the biographical sketch, is an inaugural dissertation, "*De Physconia Splenica,*" which was submitted to the medical faculty of the University of Pennsylvania, in 1789; Dr. Miller being then, as we have already stated, a candidate for the degree of M. D. The statutes of our University, at that period, required that all inaugural dissertations should be written in Latin; and though we cannot extend to that of our author, the praise of a purely classical style, yet when we are informed that he wrote it "originally in Latin, and wholly without assistance," it certainly affords an honourable specimen of his familiarity with that language. As a medical production, this dissertation calls for no particular notice. The disease of which it treats, is defined as follows:

"Febrium intermittentium pleramque sequela; tumor in regione hypochondrii sinistra exortus; paulatim crescens; durus; sæpe indolens; nec sonorus, nec fluctuans; quandoque longe et late diffusus; et diutissime permanens."

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* The high esteem in which our author was held by Dr. Rush, will be perceived from the following extract from a letter written by the former, to the brother of Dr. Miller, a few days after his decease.

"Judge of my affection for him, and the value I placed upon his integrity and friendship, when I add, that, four or five years ago, in a private interview, in my own house, I committed my lectures and manuscripts to him; to be revised by him, and published or destroyed, as he saw proper, after my death."

As we perceive by this definition, the author considers the enlargement and induration of the spleen to be almost invariably the consequence of intermittent fevers. Its proximate cause he supposes to consist in a sanguineous congestion, and languid circulation of the spleen. His mode of treatment is that with which every physician is familiar.

The next article is an essay entitled "*Cursory Observations on that form of Pestilence called Yellow Fever.*" The design of which was,

> —"to combine a number of facts relating to the operation of poisons on the animal system; to compare them with the action of febrile miasmata; and to draw such conclusions concerning the nature, prevention, and treatment of pestilential diseases, as may appear legitimately to result from the comparison."

In this essay, we have the first announcement of Dr. MILLER's opinions in regard to the nature of fever—that it depends upon some primary local affection, in which the other organs of the system participate, to a greater or less extent, by a sympathetic association.

> "After all our researches into the nature of fever," he remarks, "it seems primarily to consist in the stimulation, by poison, miasmata, or otherwise, of a particular part of the system, and in the propagation of morbid affection afterwards, from the viscus, or part originally invaded, to the heart and arteries, and other parts of the body. If this be just, according to the theory of a celebrated writer, (DARWIN,) fever is merely topical at first, and subsequently a disease of association. The morbid cause, how varied soever, whether contagion or miasmata; whether alternation of temperature, or other noxious power operating in a similar way, appears always to act upon the same principle: it stimulates, directly or indirectly, a particular portion of the system, in a less or greater degree; sometimes to the extent of common inflammation, sometimes to inflammation *sui generis,* then to more violent inflammation, verging rapidly to gangrene, and lastly to the extent of paralysis. The part thus variously affected, through the medium of sympathetic association, propagates disease to other parts of the system, and especially to the heart and arteries. This association may be more or less comprehensive, and thereby render the fever more simple or compound. And upon certain peculiarities of structure, or the greater or less importance of the part primarily attacked, and upon the more or less com-

pound nature of the disease, resulting from the extent of association, will probably depend the character of the fever, as to mildness or malignancy."

"Examples of this," continues our author, "may be found in cases of pneumonia and yellow fever. In the former, a local inflammation of the lungs, the effect of exposure to alternation of temperature, excites febrile action throughout the sanguiferous system: in the latter, miasmata, received, as there is commonly reason to conclude, into the stomach, first attack that important organ, and soon afterwards, draw into morbid sympathy, various parts, as the head, limbs, back, &c. then the heart and arteries, and successively, many other parts of the body. Hence it appears, that fever is originally local; and though, in its progress, it may be extended over the whole body, we are still to regard it chiefly as symptomatic of the stimulus applied to a particular part. If a sword penetrate the abdomen, and transfix the stomach, the range of sympathy possessed by this viscus will draw on a train of severe consequences, such as pain, inflammation, fever convulsions, gangrene, &c. In this case, the convulsions and the fever, are equally symptomatic of the wound; and, by attending principally to these, and overlooking the organic injury, we should act as is common in pestilential diseases; where the force and rapidity of the action of the blood-vessels are deemed of more importance than the local poison which inflames, corrodes, or paralyses a vital organ."

By a variety of facts and arguments, Dr. MILLER next endeavours to show, that the general and local symptoms are the same in cases of poisoning from the introduction of acrid substances into the stomach, as in epidemic and pestilential fevers. After enumerating the phenomena produced by the former, he remarks:

"The most transient consideration of the symptoms just recited, cannot fail to impress the reader with the striking analogy, between the operation of poisons, and the miasmata and contagions which produce epidemic and pestilential diseases. Scarcely a single symptom belonging to malignant distempers can be mentioned, which does not also appear as a consequence of the reception of poison; and particularly, the most deadly symptoms observed in the one form of disease are also found to be common to the other."

The source of the analogy which our author has thus attempted to establish, between the action of mineral and vegetable poisons introduced in the stomach, and of the miasmata of pestilence, has its origin in the similarity in the morbid condition of the latter organ induced by each.

"All these noxious powers, however various in constitution and origin, concur in possessing a stimulant operation, so violent as to cause inflammation, paralysis, or decomposition in this vital part."

This similarity of the operation of poisons and miasmata, is, in his opinion, strongly confirmed by the "evidence of dissections."

> "By these it appears, that, in yellow fever, the stomach and duodenum generally sustain the first and most violent impression of the miasmata; that they suffer, by means of this stimulus, inflammation, paralysis, or corrosion; and that they exhibit a destruction of the villous coat, and an accumulation of black matter, exactly resembling those which arise from the mineral poisons."

The term "paralysis of the stomach," which so repeatedly occurs in the preceding extracts, is one of those instances of the use of words without any precise or definite meaning, with which medical writers, of otherwise distinguished abilities, are too frequently to be accused: a practice which cannot be too severely censured; having tended, as much perhaps as any other cause, to retard the improvement of our science. So far as we can discover the meaning of Dr. MILLER, he applies the term "paralysis of the stomach" to those instances of rapid death from violent irritation of that organ, in which, upon dissection, it presents no morbid alteration whatever; as in the case he refers to, recorded by MORGAGNI, (Seats and Causes of Disease, vol. iii. p. 374,) where, a dose of arsenic proving fatal, no inflammation, erosion, or other morbid appearance was discoverable in the stomach, although the arsenic was found in contact with its mucous membrane, and distinguished by the usual tests.

From the chain of reasoning referred to above, Dr. M. was induced to believe that the miasmata, upon which the yellow and other malignant fevers depend for their production, becoming

> "— mixed with the saliva over which the air in respiration wafts them, descends with it into the stomach."

> "The burning heat in the stomach, as well as the nausea and vomiting, at the attack of yellow fever; the strong traces of inflammation in that organ, when laid open to view; the injuries of the villous membrane; the black matter overspreading its surface; and the extension of these morbid appearances to some distance in the duodenum; all seem to denote the presence and immediate application of *virus* to the coats of the stomach."

Of the untenable nature of the ground he occupied, in maintaining that the miasmata productive of fever, were invariably received into the stomach, and acted immediately upon its mucous coat, our author was, however, very soon convinced; and with that candour so characteristic of an enlightened mind, he lost no time in publicly acknowledging and correcting his error; accordingly, in a paper published a short time subsequent to the one we have just noticed, he remarks;

"The mistake in my paper concerning yellow fever, consisted in adopting the opinion, that the gastric affection in that disease ought to be attributed to the primary and immediate action of the febrile poison, swallowed with the saliva, upon the inner surface of the stomach and duodenum. This was undoubtedly a hasty and incorrect view of the subject."

The gastric pathology of fever was not, however, abandoned; the stomach he still maintained to be the part in which the morbid action commenced, and from whence it was communicated to other organs; and this in consequence, as he expresses it, of its possessing, in an extraordinary degree, "the property of fixing disease, in itself, with the effect of diffusing it afterwards to other parts of the system.

"In a state of health, the functions of the stomach, as the principal organ of assimilation, will give it a high rank among the parts of the system which support life. But it is in diseases that its principal powers and relations are unfolded to view. In fevers it is, probably, in most instances, the part first affected, as it commonly affords the first notices of the approaching mischief. From its susceptibility of morbid action by noxious powers applied immediately to its surface, or to distant parts of the body with which it maintains sympathetic connexion, it becomes not only the introducer of such action to the vital organs, but a centre of association, and an index of the most interesting circumstances concerning the accession, progress, remission, crisis and cure of diseases."

"No part of the system possesses so wide a range of sympathy as the stomach. The phenomena of diseases demonstrate every day its connexion with the heart and arteries, the brain, the lungs, the skin, the kidneys, the uterus, &c. The due understanding and recollection of these sympathies is not only of great importance in detecting the seats, causes, and nature of diseases, but quite as much so in directing the means of cure."

"In consequence of this centrality of association and sympathy, the stomach is subjected to peculiar degrees of injury and derangement by diseases. It may be safely affirmed, that no part of the body is so liable to disorganization in malignant fevers as the alimentary canal, and especially the stomach and duodenum. Morbid dissections so generally afford proof of this, that it would be improper to detain the reader by a recital of particulars."

"Such considerations as these, in addition to a great many others, seem fully to support the doctrine, that fever is principally a disease of association; and to prove that the sympathetic theory of it is better adapted than any hitherto known, to explain the various phenomena, and to point out the most appropriate and efficacious modes of treatment. It affords strong confirmation of this doctrine, that the stomach, the most associable part of the system, is the first and principal sufferer from the noxious causes which produce fevers; and that afterwards, in succession, the organs possessing the closest sympathetic relation to the stomach, such as the heart and arteries, the brain, the lungs, the skin, &c., are precisely, in the order of their sympathy, the most exposed to be involved in this morbid connexion."

"The doctrine of fever, therefore," remarks our author, "which appears to be most consistent with the phenomena, so far as they have hitherto been observed, is this:—Certain noxious powers, called miasmata, contagions, and poisons, find admittance into the system through the mouth and nose, or the pores of the skin, or they are inserted by the bite of a rabid or venomous animal. Whether miasmata and contagions, entering by the mouth, exert their action chiefly on the lungs or stomach, cannot yet be certainly decided. It is not improbable that differences in the ensuing disease may often arise from the various degrees of susceptibility in the several organs which give reception to the noxious matter. But whatever be the mode or place of entrance, the noxious matter, after a longer or shorter time, excites the system to a state of action which is morbid both in kind and degree. The stomach, the most moveable and associable of all the organs of the animal body, is the first to experience this excitement in itself; the most adapted, from its extraordinary powers of sympathy, to extend it to other viscera; and the most liable to sustain the burden of the disease, and to undergo the most fatal disorganization. To the heart and arteries, to the brain and lungs, to the skin, and occasionally to many other important parts of the system, is this morbid excitement communicated by means of the associative influence of the stomach. Hence all the variety of congestion, inflammation, effusion, engorgement, gangrene, and other modes of derangement, which death exhibits in the stomach, intestines, brain, lungs, and other viscera of such as die of malignant fevers."

Those phenomena to which in popular language the term fever is applied, are, by Dr. MILLER, referred to an "irritation of the sanguiferous system."

In regard to the manner in which fevers produce death, he has the following remarks.

"Without undertaking to inquire into all the modes in which a fatal termination of them may be apprehended, there are two which probably will not be controverted:—1st, organic derangement of some viscus essential to life—or, 2ndly, general exhaustion of vital power, or the principle of excitability. The former is commonly effected by the violent impetus of the blood's circulation, determined to particular viscera; and accomplishing the fatal event by the instrumentality of congestion, engorgement, effusion,

&c.; and the latter, by that excess of stimulation which is the sum of all the inordinate actions resulting from the disease."

We may be censured, perhaps, on account of the unusual length to which we have extended our quotations from the pages before us. This, however, could not well be avoided, as we were desirous to present a very full exposition of the opinions of our author in relation to the pathology of fever; and for very obvious reasons, were induced, in so doing, to employ, invariably, his own language.

The identity of the foregoing opinions with those maintained by Dr. Broussais, and his adherents, must be evident to every reader who is familiar with the latter. Even in the few particulars in which the views of Dr. Miller may appear to differ from those of the French professor, it will be found, upon a more close examination, that the difference is merely that of phraseology,—the same terms not having been made choice of by both to express similar ideas. It is true, that the latter has given a more full development to those principles which the former has but slightly indicated; and has founded upon them a system of practice, of a highly ingenious, though somewhat novel character.

We would not wish that any of the preceding remarks should be construed into an attempt on our part to detract from the merits of Dr. Broussais, or as calling in question his claims to originality, in regard to the doctrines he has promulgated. The discovery of the same facts, and even the establishing upon them of similar theoretical views, by different individuals, without the assistance, or even knowledge of each other's labours, is a circumstance by no means of unfrequent occurrence. But it is to him in particular, who, by his zeal and industry, has been enabled to follow up his discoveries, in such a manner as to produce by them a radical change in the principles of any science, that the chief honour is to be awarded.

We are happy to have it in our power to say, that Dr. Broussais has had an opportunity of becoming well acquainted with the writings of Miller, and that he is accustomed to refer to them in his lectures, in terms of the highest commendation: while, if we are not misinformed, he cheerfully concedes to the American professor, the full credit of having anticipated some of the most important points in the "new doctrine."

It will be proper here to remark, that the idea of fevers being merely symptomatic of a local disease, we are far from claiming as original with our author; on the contrary, we are persuaded that, with a very little industry, we would be enabled to name the works of numerous physicians, in which this doctrine was hinted at, or explicitly taught, many years before the appearance of any of Dr. Miller's writings.

Dr. Currie, in his "General view of the principal doctrines, &c.," refers to Henry Screta, who, early in the eighteenth century, "reviving the opinion of Diocles, derives all fevers from an inflammation of the viscera."[*] In 1789, Francis Riollay, M. D., of London, published his "Critical Introduction to the Study of Fevers,"[†] in which he thus states his idea of these diseases.

> "Many reasons incline me to believe, that fever is no disease in itself; that in all cases, it is symptomatic of some affection, and that it never is primary or essential. Where the disturbance of functions points out the seat of the disorder, the fever is unanimously called symptomatic; but if *the part affected* is not obvious to the senses, it is reckoned essential; whereas, it is more natural to think, that as, in many cases, fever is a symptom of a particular affection, it also is a symptom when the affection appears general. Fever seems to be nature's common signal of distress; which, on most occasions, she displays for relief, though very variously. Sometimes, unnecessarily alarmed, she expresses her fears in too forcible accents; sometimes, though dangerously situated, her voice is with difficulty heard, as if unable to raise it, or insensible of her danger. In some cases she points out the seat and cause of her trouble; in others, so many organs are attacked at once, that she thinks it useless to mention any particularly."

When we consider the frequency with which the doctrine of the purely symptomatic nature of all fevers occurs in medical writings, we can only explain the reason why it has not before now attracted more general notice, by the fact, that pathological anatomy had been but little attended to, as a means of determining the seats and nature of diseases.

But to return to the volume under review. The following paragraph will show to what extent Dr. M. was inclined to carry the Gastric pathology, in accounting for the phenomena of febrile diseases. Having spoken of the manner in which the stomach may be either primarily or secondarily affected by "febrile poisons," and shown that the consequences of both are the same; he adds,

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[*] The work of Screta was published in 1716; and is entitled "De Febre castrensi maligna, seu mollium corporis humani partium inflammatione dicta."

Diocles, whose doctrine Screta is presumed to have revived, flourished about the year 380 before Christ.

[†] Being the substance of discourses read at the College of Physicians for the Gulstonian Lectures.

> "Dr. DARWIN, whose theory of fever will remain an everlasting monument of his penetration and the comprehensiveness of his views, relies on that distinction to explain the difference between the mild and confluent small-pox. Thus he supposes, that, in the distinct small-pox, the stomach is affected secondarily, by sympathy with the infected tonsils, or inoculated arm; but that, in the confluent small-pox, the stomach is affected primarily, as well as the tonsils, by contagious matter mixed with the saliva and swallowed. With all possible deference for such authority, it seems to be difficult to admit this doctrine, without many exceptions. There can be no doubt that the inoculated small-pox sometimes proves to be confluent, where no suspicion can exist of contagious matter being admitted into the stomach, and primarily or immediately affecting that organ. Would not Dr. DARWIN have been nearer the truth, if he had contended, that the force of morbid action, which is sympathetically conveyed from the inoculated part to the stomach, and thence extended, by association, to other parts of the system, may, according to constitutional and other circumstances, be sufficiently diversified to produce all the varieties of the distinct and confluent disease."

By the "leading agency of the stomach in the establishment and extension of the morbid actions, called febrile," our author would explain the circumstance of terror, and other powerful emotions of the mind, frequently bringing on diseases suddenly, and imparting to them a degree of malignancy.

> "No part of the body exhibits more intimate connexion with the mind than the stomach. No other part has its functions so immediately affected by mental emotions; as is often observed in the sudden loss of appetite and suspension of digestion by the arrival of joyful or afflicting intelligence. The consequences of this close connexion are often pernicious in the seasons of mortal epidemics. Every individual, at such times, must be presumed to be more or less under the influence of the reigning noxious powers. Terror is apt to start up and assail the mind from trifling, as well as substantial causes of apprehension. The stomach being, as has been seen, the chief recipient and propagator of morbid action, and this morbid action being most likely to intrude and fix itself, when that viscus, from any cause, is deprived of its accustomed tone; it clearly results that terror may operate, in seasons of malignant epidemics, as a powerful and destructive

exciting cause. Experience and observation confirm the opinion suggested by reasoning." A few pages afterwards he thus continues the subject. "It is probable that a mortal epidemic, by filling the minds of the weak with frightful impressions, especially when these impressions are heightened by an accidental contact of the sick, is rendered much more destructive to the community through the associative operation of fear, which thus, *under the mask of contagion*, exerts a fatal influence on the system, through the medium of the stomach."

"The noxiousness of terror," he adds, "seems to admit of illustration, from the effects of intemperance in debilitating the stomach, and thereby inviting the attack of febrile action. The observation is familiar to every person, that the invasion of malignant diseases is more frequent and violent after a fit of drunkenness. That the stomach is, in this case, the first and principal sufferer, will not be denied. But the condition of this organ is not rendered much more unfit for the performance of its functions by a debauch, than by the overwhelming operation of terror."

From the last quotations, it will be perceived that our author applies the vague term "debility," to that condition of a part which predisposes it to disease. This mode of expression, almost universal with the physicians of the period in which he wrote, and extremely common with those of the present day, is one, the employment of which appears to us to be but little calculated to enhance our knowledge of pathology. Thus, can any one positively say what is meant, in the quotations just referred to, by "debility of the stomach," as a predisposing cause of fever? The author certainly does not mean us to understand by it, a deficiency of vitality in that organ, inviting to it "the attack of febrile action;" as this would be in direct contradiction to all his previous reasoning; for it is undoubtedly from the eminently vital character of the stomach, that he supposes it to become "the chief recipient and propagator of morbid action." Neither can he mean, by "debility of the stomach," a decreased action of its capillaries; for no one can suppose that such a condition would render them more prone to take on that "violent morbid action," terminating in "fatal disorganization," which he has shown to be their condition in all malignant fevers. If, however, he simply mean, as his language would indeed lead us to suppose, by "debility of the stomach," a failure in its digestive power, this is only saying, in other words, that the organ is not in its ordinary healthy condition, leaving us still to enquire in what this deviation from health consists. The fact is, the expression, when used in the loose manner it is by our author, and by too many of our contemporaries, has absolutely no precise meaning; though one unfortunately is often attached to it, that has led to a highly pernicious practice—the administration of tonics and stimulants.

From the work before us, we learn that Dr. Miller was perfectly aware of a circumstance, not always kept in mind in medical reasoning, but which, nevertheless, is one of great importance in a pathological point of view; we allude to the fact, that inflammation of the mucous membrane of the stomach may exist, in the most violent degree, without giving rise to any of those symptoms, by which it is ordinarily indicated. In his "cursory observations," he remarks;

> "It may be objected to the opinion of the operation of miasmata, in producing inflammation, paralysis, or corrosion in the primæ viæ, that symptoms characterizing these affections do not always appear in yellow fever, and that sometimes they do not appear at all, in cases where the greatest organic destruction of the stomach had taken place. But it may be replied, that nothing is more probable than fallacy on this subject. Inflammation, in the most fatal degree, may exist in the stomach without fever, pain, or vomiting; and paralysis may be produced in that organ, in a moment of time, without being perceived."

That irritation is never general, or in other words, that it is always confined to particular portions of the system, while, as a consequence, other portions are invariably affected with a corresponding degree of debility, is an important fact, much insisted upon by Broussais, and the cultivators of physiological medicine: a similar statement, though expressed in somewhat different terms, is made by our author.

> "It is by excessively concentrating excitement in certain organs, and by robbing others of their due share, that these noxious powers induce disease. By pursuing an analogous course, and soliciting excitement back again from the diseased parts, in order to fix it in others less essential to life; the physician (differing chiefly from the morbid cause, in the parts to which he applies the stimulating agent) imitates the procedure of those noxious principles which are most inimical to life."

This doctrine, however, is not peculiar to either the American or French professor: it is one which was well understood in the school of Rush; and hence the expressions, "to equalize excitement;" "destruction of the balance of excitement;" and similar language, so familiar to the American physician. The proposition, when properly understood, is certainly one deserving of close attention; a full recognition of it being, indeed, essential to our success in the treatment of a great variety of diseases.

In regard to the remedies best adapted to the cure of fever, the work under review affords us but a very brief outline of the author's opinions; and that chiefly in reference to yellow fever.

Emetics, though he admits they may be proper in the incipient stage of fever, appear not to have been a favourite remedy with him, after the disease is fully established.

> "It will be apparent to every body, that the morbid action in the stomach, whether primarily or sympathetically excited, while yet only beginning, must be comparatively unsettled and undetermined in its operation; and that this offers the golden opportunity, perhaps never to return, of creating a different and more healthy action by means of emetics, and thereby of rescuing the patient from the danger which awaits him. And, at the same time, it will be equally apparent, that if emetics be exhibited after certain degrees of morbid excitement shall have been actually formed and confirmed in the stomach, that they will not only be entirely incompetent to dislodge the disease, but will aid and hasten that disorganizing process which renders the system incapable of life."

In a subsequent essay we have the following sentence.

> "Much has been said by practical writers, on the efficacy of emetics, exhibited at the approach of malignant fevers; and there is reason to assent, in general, to the truth of these assertions. But we believe, that abstinence may often be advantageously substituted for emetics, or other evacuants, in such cases."

Of the propriety of purgatives, he has no doubts; but, in common with the great majority of the profession in this country, he considers them, when properly chosen, well timed, and otherwise judiciously employed, to be one of our most powerful and effectual remedies in the treatment of fevers.

That sudorifics cannot be usefully employed, as a general remedy in fevers, is, he conceives, apparent, "from the fatal course pursued by many of these diseases, notwithstanding the most copious, universal, and continued sweats spontaneously take place." After a general view of the advantages and disadvantages of this class of remedies, he observes as follows:

> "It may be concluded, that sudorific remedies, especially those of a more powerful kind, are, in general, highly unsafe, and calculated to augment the violence of inflammatory and malignant fevers; and that, although they

may succeed, in some cases of less violence, or by a favourable concurrence of circumstances, yet they are so constantly liable to produce mischief, and exasperate the disease, that the abuse, on the whole, must be pronounced greatly to exceed the use."

"After this attempt to restrict the use of sudorific remedies to such narrow limits, it may not be improper to recall the reader's attention to a substitute, better adapted to the nature, circumstances, and varieties of fevers. This substitute is water, of various temperature, taken into the stomach, injected into the bowels, and applied to the surface of the body."

It is proper to observe that our author had previously stated, that, in opposing the common practice respecting sudorifics, he is to be understood as having reference to

"— that kind of sweating which is excited by forcible means, by the application of external, or the confinement of bodily heat, or by the internal use of substances directly stimulant. When excited by emetics, in nauseating or full doses, or by any other means which directly diminish action in the system, it is understood to be an effect of a different kind, and not liable to the objections now offered to the practice of forcing sweats."

The following extracts from his "Remarks on the effects of abstinence at the approach of acute diseases," contain arguments, which are now daily made use of by those who have derived their therapeutical views from a different source.

"All alimentary matter, especially of the animal kind, taken at the commencement of an acute disease, is fraught with mischievous consequences. The powers of digestion are either impaired or totally suspended. No assimilation nor nourishment can take place. The stimulus of the food, immediately on its arrival into the stomach, will be added to the morbid stimuli previously operating with pernicious violence. Tottering under its present load, the system is forced to sustain new burdens. But this is not the only bad effect of receiving food under such circumstances. The alimentary matter, unsubdued and unassimilated by the powers of digestion, placed in a situation where it must undergo a rapid and noxious decomposition, will form a mass of corruption and acrimony, generating and diffusing its poison throughout the whole tract of the stomach and bowels. Can we wonder, after this, to hear complaints of flatulency, oppression and anxiety about the præcordia, pains in the bowels, diarrhœa, &c., in the course of the disease."

A few pages forward, he had remarked that,

"The French and Spaniards, in the West Indies, and in other warm climates, avoiding the use of ardent liquors, and retaining their usual habits of thin and spare diet, are observed remarkably to escape the dangers incidental to such situations; while the British, carrying with them, wherever they go, not only their plethoric and vigorous habits, but likewise their national predilection for a gross and stimulant plan of living, suffer all the havoc of those baneful countries."

The pernicious effects of indulgence in food, and the great importance of total abstinence, on the accession of an inflammatory disease, our author presumes, will be denied by few; and he has attempted to show, that the same will hold equally true in all those fevers, the offspring of miasmata and contagions. As these causes produce their deleterious effects by an irritation, either directly or indirectly affecting the mucous coat of the stomach, it must, he conceives, be evident, that, by indulging repletion under such circumstances, "by heaping alimentary upon morbid stimulus," no other effect can be produced than an increased violence of the disease. He concludes his remarks upon abstinence with the following sentence:

> "If it were possible to offer to mankind a maxim of universal application to the treatment of incipient fevers, in all their variations and circumstances, I should be inclined to hazard the following aphorism: *When symptoms, denoting the approach of acute diseases, are discovered, abstain, for a proper length of time, from all aliment.*"

As we have remarked already, the hints contained in the volume before us, in reference to the treatment of fevers, are so very superficial, that, excepting what is afforded us by the quotations which precede, we can derive but little satisfactory acquaintance with the author's mode of practice. From the following we discover his ideas of the mode of operation of those remedies which are commonly employed.

> "The plan of curing diseases by transfer, or revulsion of excitement from one part of the system, and fixing it in another, includes a great proportion of our most powerful remedies, and opens a wide field of future discovery and improvement. The effects of mercury, in producing ptyalism,—of blisters in inflaming and vesicating the skin, and exciting strangury,—of sinapisms, other rubefacients, and of many other articles operating on similar principles, afford examples of this revulsion of excitement."

In the same class he also includes sudorifics. The referring of their efficacy

> "—to a revulsion of excitement from internal organs to the skin," is, he remarks, "conformable to known laws of the animal economy, and supported by facts which fall under daily observation."

The remaining essays of which the volume is composed, are equally worthy of notice with those to which our attention has been more particularly confined. The bold and original views of the author on many points, and the superior talents which he has displayed in relation to every subject upon which he has written, fully warrant the strong language applied to him by Dr. Rush, when he pronounced him to be "second to no physician in the United States," at the period in which he lived. His entire works are strongly recommended to the attention of our readers; we being persuaded that no one of them will regret the time spent in their perusal.

In the "Report" of our author, "on the Malignant Disease which prevailed in the city of New York, in the autumn of 1805," is to be found a summary of all the leading arguments in defence of the domestic origin of the yellow fever; digested and arranged with [illegible] skill, and conveyed in a style, which is not the least recommendation of Dr. Miller's writings.

This report, soon after its publication, was reprinted in Great Britain: it was, also, translated into the French and German languages; and is inserted at length, by M. Dumeril, in his report to the emperor, on the Spanish epidemic of 1804.

In the essay entitled "An Attempt to deduce a Nomenclature of certain febrile and pestilential Diseases from the Origin and Nature of their Remote Causes," we are presented with a rational account of the causes which give rise to typhus fever, and of the circumstances upon which their production depends.

The three introductory lectures, "On the Influence of Temperature on Health and National Character;"—"On the Certainty of Medicine;" and "Upon Medical Education;" will be read with equal pleasure and profit. In the first, is displayed, in a very forcible manner, the advantages of clinical instruction as a means of acquiring practical knowledge; while, in the last, the lecturer strongly urges upon the student, the importance of a careful prosecution of morbid or pathological anatomy.

"Had" he remarks, "a severe practical study of the ordinary structure been generally followed up, for the last fifty years, by an investigation of every gradation of change induced by disease, we should, by this time, have had infinitely less uncertainty in the doctrines and principles of medicine."

The opinions of our author, in relation to medical education, taken generally, are in accordance with those of every individual who has given to the subject any serious consideration: he is an advocate for prolonging the term of study, and for augmenting the branches to which the attention of the pupil is to be directed.

> "In general, public opinion and the prevalent usages of this country, permit the business of medical education to occupy so short a period, and to be hurried over with so much precipitation, that it is necessarily very imperfect, and the attainments of the student very superficial. This defect must be unavoidably experienced at every stage of his subsequent course."

The volume closes with "*Remarks on the Cholera, or Bilious Diarrhœa, of Infants.*" To Dr. MILLER we are indebted for the introduction of the plan of treating this disease by the administration of minute doses of calomel. It is not long since, that at a meeting of the Medical Society of Philadelphia, we were surprised to hear the introduction of this prâctice, in the disease in question, ascribed to a British physician; and we suspect that but few of our physicians are acquainted with the short, but highly valuable essay of our author, in which the attention of the profession was first directed to a mode of treatment, the value of which subsequent experience has so fully demonstrated.

We here close our remarks; with the pleasing hope, that the notice we have taken of the "medical writings" of Dr. MILLER, may be the means of introducing them to that place in the libraries of our professional friends, to which their merits so justly entitle them.

P. K.

PROCEEDINGS OF THE MEDICAL SOCIETY.

ARTICLE XVI.—*Report of the Committee on Quack Medicines.*

In conformity with a resolution of the Medical Society, at its meeting of the 16th December, we place before our readers the Report of the Committee, appointed, on the 16th June last, to make investigations, the purport of which is conveyed in the Circular published in our July number. We do not stop to praise this Report: the mass of interesting and decisive facts which it contains, on a subject so important to humanity and the profession, will be its best recommendation. EDITORS.

The Committee appointed by the Medical Society of Philadelphia, to inquire into the remedial value of the more prominent specifics now sold in Philadelphia, under the assumed names of Panacea, Catholicon, Minerva Pill, &c., submit the following Report:—

In obedience to the requisition of the Society, they lost no time in despatching circulars to the practitioners of Medicine in this city, and to a large number of physicians in various parts of the United States, from some of whom they have received in return much valuable information. The little attention which circulars in general are calculated to elicit, will serve to explain in part the reason of these replies not having been still more numerous.

The questions growing out of this inquiry refer chiefly to the most widely known of these pretended specifics, viz. Swaim's Panacea; and on this head the committee have pursued their investigation in the following order. 1. The sense in which the physicians, who gave their certificates in favour of the Panacea, intend their evidence to be received; as discovered by their written replies to the circular of the committee.

2. The circumstances connected with the introduction of this nostrum into the practice of the Pennsylvania Hospital and Philadelphia Alms House Infirmary, and the extent to which it was used, and the effects attending such use.

3. The nature of the general evidence, received from various sources, respecting the alleged curative, and positively deleterious, operation of this Panacea.

4. The inferences deducible from the above facts and circumstances, and the objections to the use of this, as of every other, quack medicine.

On the first point, the committee beg leave to present the following statements to the society. Dr. CHAPMAN acknowledges having 'overrated the value of the Panacea of Swaim,' and 'for a long period' he has 'entirely ceased to prescribe it,'—says he is in possession of not a few cases, which, if desired, are at the committee's service, and 'eminently calculated to alarm the public on this subject.' Sept. 29th, 1827.

Doctor GIBSON says, he has found the Panacea succeed in cases of secondary syphilis, and fail in others; and adds, "I have never found the remedy of any service in scrofula. In several cases which came under my notice, ptyalism has followed the use of it." October 25th, 1827.

Doctor DEWEES's experience of this article having been found useful, is limited to "four, or, at most, five cases;" whereas, his own practice, in which he has prescribed it several times, does not, he acknowledges, furnish a single case of any decided advantage following its use. October 26th, 1827. Doctor DEWEES does not state the evidence on which he gave his certificate to Swaim; but, it is believed, that not even half of the few favourable results now alluded to had then come under his own personal observation.

Dr. PARKE's statement, in his letter of September 28th, 1827, is, that he witnessed the case of Tregomain in the Pennsylvania Hospital; who, after being subjected to various methods of treatment, was finally cured by the somewhat prolonged use of Swaim's Panacea. The disease was 'a very obstinate malignant ulcer on her hand.' It may be well to remark, that Dr. PARKE's certificate in favour of the nostrum was furnished on the strength of this *single case.* It would be a subject of curious inquiry to ascertain the probable number of certificates to which the practice in a large hospital would give rise in the course of a single year, if the cure of every case of a somewhat protracted disease were to lay claim to such notices. The valuable Hospital Reports published from time to time in various cities, would then give place to Hospital *Certificates*, with an effect on the march of medical improvement, of too painful a nature to be calmly contemplated.

Dr. PARKE goes on to speak of the cases of two ladies from southern states, the melancholy nature and result of which, so totally different from the tenor of his letter, will be laid before the society in a subsequent part of this report, in which it will also be seen that little, if any, credit can be attached to the Panacea as a remedial agent in Tregomain's case.*

It seems then, from the testimony of those whose certificates in favour of Swaim's Panacea have been so much relied on by the proprietor, and his friends and coadjutors, that nothing is adduced in them calculated to inspire any confidence whatever in its use. On the contrary, Dr. CHAPMAN's having long since ceased to prescribe it, and his pointing out cases of its alarming effects, Dr. GIBSON's never having seen it succeed in scrofula, the constant failures when Dr. DEWEES has prescribed it, added to Dr. PARKE's inexperience of its use, are all circumstances well calculated to deter from recommending it. The only decided effect is that pointed out by Dr. GIBSON, of its *salivating*. The physician will, however, of course, prefer prescribing himself the medicine or combination of medicines to produce salivation, when he thinks this condition of things is required by the exigencies of the case.

The committee, on application to the resident physician of the Pennsylvania Hospital, and to the Apothecary of the Philadelphia Alms House Infirmary, have obtained the following information respecting the time when Swaim's Panacea was first introduced into the practice of those institutions, during what period it continued to be prescribed, and by whom.

Dr. CHARLES MIFFLIN, resident physician of the hospital, reports, that, as well as he can learn, Dr. PRICE was the person who first directed it, and who attended as surgeon to the hospital in the years 1822 and 1823, four months in each year. Dr. PARKE, who was at that time one of the physicians to the hospital, stated *to* Dr. Mifflin, that he never heard of the Panacea being used in any case in the practice of the house, except in that of R. Tregomain, already noticed. "No mention of Swaim's Panacea," says Dr. M. "is made in our book of apothecary's expenses for those years; from which I would infer that its use in this hospital was very short, and that what was used had been presented, for the sake of an experiment, the success of which is shown by its discontinuance from that day." Dr. M. states his having made inquiries of Drs. Hewson, Otto, and John Rhea Barton, gentlemen attached to the service of the hospital; and was informed by them that they never prescribed it in that institution, nor do they know of any other person using it but Dr. Price.

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* See Appendix, A.

The cause of Dr. Price's admiration of the Panacea need not be dwelt on at present. It is sufficient to remark, that he went to Europe, in the year 1823, as agent of Swaim, for the vending and distribution of the Panacea. Of the results of this mission the world has not yet been informed.

Mr. Gerard S. Marks, Apothecary to the Philadelphia Alms House Infirmary, reports, that, in the year 1822 or 1823, Swaim obtained permission from the managers of that Institution to give his Panacea a trial. The effects of this pretended specific were to fail entirely in six cases out of eight; and of the remaining two, one was ameliorated and the other cured. Of the whole number, five were of *scrofulous disease*, and three of *secondary syphilis;* in which last it exercised no beneficial tendency. The Panacea produced, after a few days, in the first patient, James Ray, affected with scrofula, most violent and alarming bowel complaint, accompanied by great emaciation, under which he sank, notwithstanding the discontinuance of the medicine, and the judicious prescriptions of Dr. Parrish. In one of the cases of secondary syphilis, the Panacea seemed to produce temporary derangement; and in a few days after discontinuing its use the patient died. In another, of the same disease, the syrup of sarsaparilla prepared by the apothecary of the establishment, entirely relieved the patient, after the Panacea had failed to produce any effect.

In regard to the quantity of the Panacea used in the Alms House Infirmary, the committee have learned from Mr. Marks, that, from the 30th December, 1822, to the 20th January, 1825, sixty-seven bottles of this nostrum were purchased, at the cost of one hundred and sixty-seven dollars and fifty cents. Since the 20th January, 1825, "there has not one drop been purchased for the use of said institution."

The principal points of difference between the Panacea practice, and the regular treatment of scrofulous and syphilitic patients in the Alms House, are, in the greater number of failures under the former or empirical, and the violent and alarming symptoms following the use of the nostrum. The expenditure of so much money on those hazardous experiments, naturally gives rise to a feeling of regret, that a portion of the sum thus wasted had not been directed to securing to the afflicted patients the benefits of those natural agencies, such as pure country air, and suitable regimen and exercise, which experience has proved are the best auxiliaries to medical treatment: and which are at all times more successful in the hands of the benevolent, for the relief of bodily suffering and disease, than any or all of the inventions of quackery.

The sum of the Hospital practice is found in one solitary case. The Panacea was never purchased for the use of that institution, nor ever received as an article of regular prescription in it. And yet, this circumstance, together with all the facts connected with its use and discontinuance in the Alms House, staring him in the face, Wm. Swaim, in his book, bearing date, November, 1826, with more assurance than prudence, holds the following language: "What can be more satisfactory to the public than to know, that it is used in all institutions in this country, alike eminent for the professional skill which presides over them, and the purely benevolent purposes for which they are designed—the Pennsylvania and New York Hospitals, and the Philadelphia Alms House?" If the statement is satisfactory, as it cannot fail to be useful, to the public, they are now informed that, so far as regards the Pennsylvania Hospital and Philadelphia Alms House, the assertion of Wm. Swaim is directly the reverse of truth. His Panacea is not, nor was at the time he wrote, used in either of the institutions above mentioned.

The real nature of the hitherto imposing evidence of Drs. Chapman, Gibson and Dewees, having been exhibited, in the sense which those gentlemen, from some years additional observation of the effects of the Panacea, wish to be affixed to it, and the entire want of support of his assertions, which Swaim can derive from public and hospital practice, having been placed in their true light; the committee next request the attention of the society, to the evidence from various quarters, respecting the effects of this medicine.

Dr. SAMUEL EMLEN reports, that of all the patients he has met with who have used Swaim's Panacea, he has "only heard *one* say that he was benefited by its use." The first patient who came under his notice, and whose name and residence he indicates, was, in the year 1821, visited twice by him, for a scrofulous tumour. A note received from the patient, apprized Dr. EMLEN of his having called in other medical attendance, at the solicitation of his brothers. After the lapse of a few weeks, this person called on Dr. E., apologized for his behaviour, at which he expressed great regret, and stated his having employed *Doctor* Swaim; from whom he had taken seven bottles of his Panacea, at $5 per bottle, without any good effect. He added, that Swaim then went to the apothecary, who had formerly made up Dr. EMLEN's prescriptions in this case, and obtained some of the very same medicine which the latter gentleman had directed, and which Swaim gave to the patient. This person having detected, immediately, the medicine by its taste and appearance, was disgusted at the trick; and, wearied with the ill success of his new doctor, discharged him. Dr. EMLEN having received what he conceived to be a suitable apology, took the patient again under his care, who in a few weeks was entirely well.

Another case, was that of a female slave, from Charleston, with a number of scrofulous tumours, and a cough indicative of what Dr. EMLEN conceived to be incipient phthisis pulmonalis. Influenced by his views of the case, he told the mistress of the woman, that medical treatment was not likely to be of much service. The lady then mentioned her wish, that her servant should make a trial of the Panacea of Swaim; of which she had heard and read so much, in the cure of scrofula. Dr. EMLEN stated, in reply, his having seen it used in many cases of genuine scrofula, without any benefit whatever. On the lady's return to Charleston, however, she had the Panacea administered to the patient; and spent $70 in the purchase of this nostrum. When she again visited Philadelphia, in the ensuing summer, she placed the slave under the immediate care of Swaim; who continued his visits and his syrup till the patient was brought under a profuse *salivation*, when the prescriber ran away with his bottle, that she might not be tempted to take more. In vain did the mistress send message after message to the Panacea proprietor; his promises of coming directly, were never fulfilled; and the patient sank rapidly, and died, immediately after arriving at Charleston, in the autumn.

The third case given by Dr. Emlen, was of a boy in the Orphan Asylum, in Cherry Street, who had been for years afflicted with scrofulous tumours all over the body. The disease had been treated, without success, by the different physicians of the Institution; when the committee of management bought some of Swaim's Panacea, and placed the boy under the use of it, although Dr. Emlen protested against the measure, as a needless expense. The patient died before he had finished one bottle.

The fourth case furnished by Dr. Emlen, was of a poor woman, just above Seventh, in Cherry Street, who earned a livelihood by selling pennyworths of yest and gingerbread, &c. This person took the Panacea during two years, for some ulceration of the throat; and expended, as she declared to Dr. E., more than sixty dollars, without relief. She afterwards moved to Decatur Street, where she died some months back. Of the conduct of the proprietor and maker of the Panacea, in continually holding out hopes of amendment of her health, which were never realized, and of his language and conduct to her, when she ceased visiting him, and had told her friends that she was worse than before she began using the medicine, the committee will, for the present, forbear to speak.

The fifth case coming under the notice of Dr. Emlen, was of a lady ——— from Charleston, South Carolina, under Swaim's care, for ulceration of the lower lip and chin. She acknowledged to Dr. E. that she had taken twelve bottles of the Panacea, without deriving any benefit; and expressed her wish that she had thrown the money she paid for it, into the street, that some one might have been benefited by it. When this lady last visited at Dr. E.'s house, about the 20th September, she stated the excruciating pain which she had suffered all the summer, from the caustic applications of Swaim, to her chin and lip—" her under lip is entirely destroyed, by his applications, the whole length, and she presents a horrible aspect." When asked if the disease was getting better, her reply was, "she hoped so."

Dr. **Emlen** states his having seen a number of poor sailors, who applied for admission into the Hospital, after expending all the funds they had in this and other Panaceas; and a poor carter, who told him that he had spent $50 in Swaim's Panacea, for rheumatism, which had done him no good, and that his son had laid out $28 in the same medicine.

The cases of two individuals, of two wealthy and well known families, to whom enormous quantities of Swaim's Panacea had been given, without any benefit, for diseases of the skin, are indicated by Dr. **Emlen**.

Dr. G. **Emerson**, in a letter to the committee, dated November 1, 1827, reports cases coming under his own knowledge, in which Swaim's Panacea had been administered. The first, was of a relative of Dr. E., who was induced, by the flattering recommendation of some of her friends, to take it for the cure of a cancer. Its use was persevered in, without the knowledge of the eminent professional gentleman who attended her, or of Dr. E. himself, "until the stomach became so irritable as to be incapable of retaining sufficient food for the support of life, and the death which shortly happened, was, doubtless, hastened by inanition."

Another case was that of a young man with very severe inflammatory rheumatism, attended by two regular physicians; who, at the pressing solicitations of the family and friends, suspended their visits, in order that Swaim's Panacea might be exhibited. Swaim was sent for, and unhesitatingly promised a cure in a few days. Two weeks elapsed in the trial, and though help was still promised, and on one occasion a bottle not half emptied was taken away, and another substituted by the proprietor and vender, which was to give entire relief, the patient was no better.

Dr. **Emerson** states his having known children greatly injured, by having Swaim's syrup given to them, for the removal of swellings suspected of being scrofulous, but which proving to have arisen from acute inflammation, were driven to suppuration under very aggravated circumstances.

Dr. **Thomas Harris**, in his statement in possession of the committee, mentions, that although he never prescribed Swaim's

Panacea, yet he has witnessed the effect of its exhibition in diseases of various characters.

The first case, was of Mrs. E., who was affected with *herpes exedens* of the nose. She had been under his care at different times for two years, during which period, he succeeded in healing the ulcer several times. She afterwards resorted to Swaim's Panacea, with the effect of aggravating the ulcer, and of producing an incurable diarrhœa. During the seven years that have elapsed since she first subjected herself to Swaim's care, the ulcer has continued to increase in size.

The second case was of Capt. L., affected with indolent ulcers of the legs, who took ten bottles of the Panacea, without deriving from it the slightest benefit.

The third case recorded by Dr. HARRIS, is of Mr. K., a scrivener, afflicted with dyspepsia. This person applied for relief to Swaim, by whom, as might have been anticipated, the Panacea was prescribed. After he had taken the second bottle, he became *salivated*, and was affected with a mercurial eruption on his shoulders and face. On his showing the eruption to Swaim, the latter expressed his satisfaction at its appearance; and added, that his "medicine was driving disease out through his skin." The patient was thus encouraged to persevere in the use of the medicine, until he had taken a few bottles more. The effect was an increase of the *salivation*, and an extension of the cutaneous disease, until nearly the entire surface of the body was covered with it. Having been kept for three months in this state of profuse salivation, which was accompanied by mercurial ulcers, and extreme emaciation, the sufferer applied to Dr. HARRIS, and a medical friend of his, for relief. But it was too late; the long continued irritation produced by the Panacea, brought on ascites, or abdominal dropsy, of which he died in a few months.

Dr. HARRIS adds, that he has seen this nostrum used in several other cases, without the slightest advantage.

Dr. RANDOLPH, in reply to the circular addressed to him by the committee, states, that in consequence of the Panacea of Swaim having met with a more ready sale than other similar remedies, he has more frequently known this article to be administered. The diseases for which he has seen it given, were cancer, scrofula, and bad ulcerations, seated on various parts of the body, and for which the medicine has been used for weeks and months; and yet, he continues, "I do most conscientiously declare, that I have never known, in a single instance, a cure to be effected by it." Dr. RANDOLPH adds, that he has attended several cases, in conjunction with Dr. PHYSICK, of ulcerations and scrofula, in which the Panacea had been largely administered; and he is authorized by this latter gentleman, whose experience, powers of observation, and perfect candour, are too well known to need eulogy in this place, "publicly to declare, that he (Dr. PHYSICK,) has never seen a single case of either scrofula, or cancer, cured by the administration of Panacea, or Catholicon; and that he entirely disapproves of their exhibition in any shape whatever."

But as any man, however awkward and unskilful a marksman he may be, will, by dint of constant shooting, occasionally hit the object at which he aims; so, to the hundreds of cases of failure and mischief from the use of the Panacea, some few may be added of less sinister tendency. From Dr. ATLEE, a practitioner of medicine in this city, and from a physician in Georgia, the committee have received notices, accompanied by two specified cases of the good effects of the nostrum.

Dr. HORNER furnishes the following information, in compliance with the resolutions of the society.

About four years ago, when Dr. HORNER took charge of the patients in the Philadelphia Alms House, three were transferred to him, who were under the use of Swaim's Panacea. Two had secondary syphilis, and one, a coloured boy, about ten years of age, had what was called a scrofulous ulcer over the cheek bone. In one of the two patients, the medicine produced distressing symptoms on the bowels, and it was found necessary to discontinue it—in the remaining two it was of no service.

About two years ago, Dr. H. had under his care a labourer from Lancaster, who was suffering from stricture of the urethra, and pain in the loins. He had taken several bottles of Swaim's Panacea without his being at all benefited.

Within the last two months, (May and June,) Dr. H. treated a gentleman from Ohio, a Mr. G., who had a small ulcer on one leg, attended with varicose veins. He had taken Swaim's Panacea without any benefit, but was cured of the ulcers in less than a week by regular treatment.

"I am now," says Dr. HORNER, "attending a lad of sixteen, Joseph H., with inflammation of the knee joint, and necrosis of the tibia. He had taken Swaim's Panacea without advantage. By regular treatment he was cured of the necrosis, and is getting well of the disease of the knee joint.

"I have lately seen a lady in the country with a pustular eruption ending in dark scales; she has been subject to it for a year or two. She has taken several bottles of Mr. Swaim's Panacea; but is not cured, neither does the medicine promise to be efficient.

"I have now under charge a coachman, who has chronic purulent discharge from the urethra, with weakness of the loins. He has taken, without advantage, Mr. Swaim's Panacea, and Mr. Scott's Panacea. The disease commenced in a gonorrhœa, which he had more than a year ago."

From the same gentleman the committee have received the details of the case of Mrs. Murray, aged fifty, a child's nurse in the family of Mr. L., of this city. This person believed herself to be affected with piles for the last fifteen years; but, on examination, the disease was found to be stricture of the rectum. After a partial division of the stricture by a bistoury, the intestine above was discovered to be in a tuberculous and schirrous state. She remained some time in the Alms House: but about the 1st of July, she retired into the country, with enfeebled strength and appetite, and increase of pain, and labouring under a slight diarrhœa. When in the country she met with one of Swaim's circulars of famous cures; and through its influence, and the over persuasions of the persons around her, was tempted to try a bottle of his Panacea. The first dose disagreed with her very much, and increased the complaint and pain in her bowels: she, however, still persevered in its use, in diminished doses, for ten or twelve days, continually growing worse under its influence. On Friday, Aug. 3d, she returned to the Alms House, in a dying state, from the effects of the medicine and disease together; and on Monday night, Aug. 6th, 1827, she expired. This patient, a day or two before her death, compared the sensation which the Panacea produced upon her to that caused by a stream of fire passing through her bowels. Examination after death showed the whole of the rectum to be in a state of cancer; the small intestines slightly, and the stomach decidedly inflamed; and the liver small, white, and hard.

The committee have learned, by one of their members, that in the neighbourhood of Dumfries, in Virginia, many persons had used Swaim's Panacea; eight or ten within the knowledge of Dr. Spence, of that place, without deriving relief from it. Among them was a lady, whose name is in possession of the committee, who had a cutaneous eruption on the face, for which she took twelve bottles of the above nostrum, and was in consequence profusely *salivated*. She was finally cured by Dr. Spence with a wash of lac sulphuris. Another lady, whose name is also given, took three bottles of the Panacea for violent pain in the head and face, after remittent fever; but without any other effect than profuse *salivation*.

Mrs. L., of Arch street, in this city, took eight bottles of Swaim's Panacea for chronic rheumatism, without its doing her any good whatever.

W. D., in Plum street, took several bottles of Swaim's Panacea, for an ulcer of the face, without the medicine being of any service.

D. B., in Market street, took, ineffectually, Swaim's Panacea, for ulcer of the leg, with a slightly varicose state of the veins of the limb.

A servant girl, who formerly lived with Mrs. R. M., has scrofulous enlargements of the lymphatic glands of the neck, for which she was treated during six weeks by Mr. Swaim; but so far from her condition being ameliorated, the disease went on increasing.

A physician of this city has informed one of the committee, that he has had occasion to see the Panacea employed by a dozen of persons, labouring under chronic rheumatism, ulceration, and cutaneous disease, without any benefit resulting; some, on the contrary, were made worse.

Dr. Coates has sent to the committee a statement of the real nature of the much talked of case of Robert Ryan, a patient of the Pennsylvania Hospital. The man's disease was instanced as a triumph of the Panacea, after the regular methods of treatment, by the surgeons of the house, had failed; whereas the cure was the work of nature, and was accomplished by processes, for which a very long time is often demanded. Robert

Ryan suffered under a necrosis, or death of the lower part of the thigh-bone; which could not, with prudence, be removed by a surgical operation, on account of the risk to the popliteal artery and nerve, and the destruction of muscles. All that could be attempted with advantage in such a case, was, to keep open the ulcers or sores communicating with the dead and mortified bone, until this latter was separated and discharged. Of course the patient was never considered as the object of any treatment directed to the cure of his sores: they were, on the contrary, at times, dilated, and prevented from closing, for the reasons just given. The completion of the process of the separation of the dead bone, appears to have coincided with Ryan's taking the Panacea, without there being the least probability of the cure having been at all accelerated by the nostrum.*

Doctor Coates mentions the case of a child, affected with a chronic inflammation and ulceration of the ankle joint, the termination of which, in health, in the course of a year, was predicted by a distinguished surgeon of this city. The event verified the correctness of the prognosis; but the parents, eager to expedite the cure, gave it Swaim's Panacea, for nine or ten months. This is another instance of the claims of the medicine to cure, on the mere strength of fortuitous coincidence.

Several instances have come under Dr. Coates's notice, of patients, with syphilis and gonorrhœa, who had taken the Panacea for a considerable time, without receiving any benefit from it.

Mr. Kennedy, senior student at the Alms House, has furnished the details of the case of James Shaw. This man, thirty-one years of age, had, as he says, an attack of typhus fever, in the month of September, 1826; after recovering from which, he was seized with a dull heavy pain and swelling in the shoulder, followed by openings of a fistulous character, at the upper end of the bone, which became carious. Various methods of treatment were resorted to without effect, in the country, where he then resided. About the 1st of December, 1826, this patient consulted Swaim; who, without hesitation or inquiry, pronounced the disease to be scrofula, stating, at the same time, that his Panacea was the wonderful and only curative of this complaint, as well as of every other description of running sores. The Panacea was, accordingly, taken by Shaw for three or four months, without any benefit; but with the effect of producing a burning sensation in the stomach, and, in the course of a few days, a copperish taste in the mouth, and, after the lapse of some weeks, a disordered state of the bowels, which continued for upwards of a fortnight.

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* See Dr. Reynell Coates's letter, [A] in which it is shown that the Panacea had no share in the cure.

The committee, on a review of all the testimony presented to them, and a portion of which they have placed before the Society, find that the claims set forth by Swaim in favour of his Panacea, as a surpassing remedy for *Scrofula*, and on its success in which disease he rests so much of its merits, are not only without support in fact, but are entirely set at nought by the result of numerous cases, and the experience of some of our most cautious and celebrated surgeons and physicians. The opinions, deduced from extensive observation and very many facts, during several years past, by Drs. PHYSICK, GIBSON, RANDOLPH and EMLEN, are conclusive of the comparative inefficacy of the remedy in scrofula. The annals of medicine, and even popular experience and tradition, furnish a much larger proportion of cures of this disease, in its various forms and stages, accomplished by means familiar to every physician, than are proved by its proprietor and his friends to have been performed by the administration of the Panacea. A well regulated diet, and the change of residence from town to country, from a close, damp and impure air, to one clear, elastic and invigorating, have done more in this disease than all the nostrums ever invented: and when medicinal agents are to be had recourse to, the use of the various alteratives, mineral and vegetable, of the Materia Medica, under the guidance of practised judgment and careful reasoning and comparison, promise more decided, and, at the same time, salutary results, than any one agent or composition, given without knowledge of cause, and too generally without regard to the modifications of effect.

Of the curative powers of the Panacea of Swaim in *Cancer*, it is needless to speak: no evidence whatever of any the slightest efficacy of the nostrum in this dreadful disease, has been furnished to the committee. The adverse testimony is, however, strong in proof of its entire failure, in cancer.

The alleged good effects of this nostrum in that class, or, rather, the varieties of disease, classed under the heads of *Secondary Syphilis*, *Pseudo Syphilis, and Mercurial Disease*, are not of such a nature as to bespeak any extraordinary confidence in its use, or to entitle it to a preference over known articles in the Materia Medica. Admitting to its full extent the imperfect testimony in favour of the Panacea, in secondary syphilis, it does not possess, thereby, any claims superior to what might be put forth for diaphoretics, of which opium is the basis; or sarsaparilla and its adjuncts, constituting what has been called the Lisbon Diet Drink, or the Compound Syrup of Sarsaparilla; or, finally, a well regulated regimen alone. But if a name is required to give a charm to the composition, the Rob of l'Affecteur, or the Syrup of Cuisinier, as prepared by the regular apothecary, ought, in all cases, to be preferred to the Panacea.

That disease called *mercurial*, as presented to the physician in hospital practice, is for the most part a hybrid, being the offspring of syphilis, and the mercury administered with a view to the cure of this latter. In other cases, of less frequent occurrence, it is the direct consequence of the excessive and injudicious use of mercury. The so much boasted powers of the Panacea, have been directed to the cure of the former variety of this malady, with, we may presume, though we have no positive evidence of the fact, some benefit. But this moderate success affords no proof of the superior advantages to be derived from the nostrum in question, and would scarcely merit notice, were it not for the inference which has been attempted to be artfully drawn from it. It has been loudly proclaimed, that a medicine which combats and destroys the noxious effects of mercury, cannot, of course, have any mercury in its composition; and an additional argument is thus adduced in favour of its superior mildness and efficacy. The reply to all this sophistry is obvious and natural. The Panacea which salivates, as that of Swaim so often does, cannot be brought forward as a remedy for diseases induced by the excessive use of mercury: but a common variety of the Panacea, from which its proprietor has excluded corrosive sublimate in its preparation, will, like any other syrup of sarsaparilla, and its vegetable adjuncts, be often useful in the mercurial disease. Still, the patient has no chance, in the hands of ignorance, viz. of nostrum makers, and venders, of a selection being made for him, and, even though his disease be mercurial, he is in danger of taking a succession of doses of the Panacea, similar to those which first salivated, and finally brought poor K. to his end. The casual success of any Panacea or nostrum whatever, is not, in the disease under consideration, any evidence of its superior efficacy, or proof of its differing, in its constituent articles, from medicines used on such occasions, by many professional men. And it will hardly be asserted, except by implication in the unqualified praise of their friends, that ignorance of the common laws of the animal economy on the part of the proprietors of such nostrums, and the want of knowledge in the patient of all the cautionary rules growing out of the stage of the disease, and his peculiar habits and constitution during their use, furnish any strong claims for public countenance and favour, towards this class of medicines.

Of the very large number of cases of chronic and mercurial *Rheumatism* in which the Panacea has been used, instances of cures have been stated; but from what has come under the knowledge of the committee, they are not, by any means, prepared to regard it as equal to very many regular methods of treatment, recognized by the medical profession. The proportion of cures to failures, is too small to warrant any confidence in it.

The assumption of the conspicuously good effects of Swaim's Panacea in *ulcers of the throat*, and in "almost every disease of an ulcerous nature," has not been sustained by the facts before the committee. The use of enormous quantities of this medicine in some cases during many months, and even in one instance for years, has been productive of any thing but a cure for the ulcers, for which it was so confidently recommended.

In *Cutaneous Eruptions*, the nostrum in question has too often failed to entitle it to commendation in such circumstances. The case of the lady near Dumfries, in Virginia, who took twelve bottles of the Panacea for cutaneous disease, without any effect, except profuse salivation, has been already mentioned. The medicine by which she was finally cured, ought, by the rules of evidence received in favour of charlatanism, to be published as a never failing cosmetic, and remover of all cutaneous blemishes; the more especially since medical records abound with examples of the curative powers of sulphur in this class of maladies.

"*Dyspeptic complaints*" are adduced among those which the

Panacea of Swaim is intended to cure. Without dwelling on the vagueness of the term dyspepsia, and the numerous tribe of disordered sensations classed under it, it is sufficient at present to remark, that in no form of disease to which the human frame is subject, is a knowledge of its remote and exciting causes of such paramount necessity as in dyspepsia. Without a removal of these causes, usually found in the mode of life of the invalid, any medicine, or combination of medicines, will, so far from relieving, be too often found to exasperate the disease. Yet no such conditions are exacted by the proprietor and venders of Panacea; a liberal potation of the syrup is with them the *sine qua non;* whilst exemption from all the rules derived from experience of past ages, and reasoning and feeling, is claimed by the person who agrees to take this medicine. Of its pernicious effects in most of the forms of dyspepsia and disordered bowels, the committee conceive it their duty to speak explicitly; and to caution against the use of that which tends to irritate and inflame the stomach, already prone to inflammation, if not actually suffering under this state, in the disease under question. The comparison made by Mrs. Murray, of the sensation produced by the Panacea, to a stream of fire passing through her bowels, coupled with the case of Mrs. E., in whom it produced incurable diarrhœa, and that recorded by Dr. Emerson, of irremediable inability of the stomach to retain food after its use, are admonitions of too powerful and melancholy a nature to be readily overlooked, or soon forgotten. The peculiarly afflicting case of Mr. K., the scrivener, who took Panacea for dyspepsia, and the fatal case of ulceration of the intestines from its use, as recorded by Dr. Hopkinson,* are likewise commentaries on the nature of such medicines, and the ignorance of their proprietors, which must be understood by the least discerning, and produce sympathy in the most unfeeling.

It would be a source of great gratification to the committee, if they could, in imitation of the proprietor of the Panacea, say, that 'this medicine is entirely harmless,' and "that it may be given without hesitation, or the least apprehension of danger, alike to the most tender infant, and the adult, with equally beneficial results." The preceding cases show the utter fallacy of this assertion, and that the syrup, in the manner in which it is often compounded by the proprietor, and prescribed by him and others, is eminently calculated to destroy the digestion and undermine the powers of life. Every reflecting person must be struck with the revolting contradiction exhibited by the friends of the Panacea, in claiming for it great power over the most obstinate diseases, and yet calling it perfectly harmless. No such agent ever has been, or can possibly be, demonstrated to operate either on the physical or moral nature of man. With the possession of properties capable of doing good, is the correspondent ability extensively and deeply to injure by their misapplication. Poisons of the most active class may sometimes be taken in minute doses, without exhibiting any deleterious effects; as we see in the preparations of arsenic, and in corrosive sublimate, occasionally prescribed by medical men. But we should be at a loss to find language sufficiently expressive of our surprise and indignation, if, on the strength of such occasional immunity, any person could be found so lost to reason and feeling as to say that Fowler's Arsenical Solution, and corrosive sublimate, disguised in syrup, might be freely given to the most tender infant, and that they were perfectly harmless.

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* See Appendix [B].

It will be seen that, in this first stage of the inquiry, the committee have confined themselves to noticing the various effects of the Panacea, without instituting a scrutiny into its composition. They have endeavoured to ascertain the nature of its operation on the animal economy, in the same manner as they would have investigated the properties of a new article of the materia medica. But, in doing so, they are not disposed to regard the Panacea as a preparation hitherto unknown to the medical practitioner, or the constituent parts of which are not frequently employed by him in the treatment of disease. Had the committee been willing to avail themselves of all the means of perquisition which justice would seem to require, they might, perhaps, have obtained direct evidence to this effect. For the present, they prefer exhibiting to the society circumstantial evidence, and collateral proofs, which may be said, in this case, necessarily to lead to conviction. The history of the introduction of this syrup into general use, and the recipe for its preparation, as well as the circumstances under which it was obtained, are very clearly set forth in the Report of the Medical Society of the city of New York, on Swaim's Panacea, and other depurative syrups; drawn up by Drs. Pascalis, Hammersley, Drake, Manly and Watts. It appears from this report, that about the year 1811, Dr. Berger, the elder, was joined in consultation with several physicians of New York, in the case of a gentleman labouring under a loathsome complication of disease, the sequelæ of syphilis, and the repeated and irregular use of mercury, which had resisted all the ordinary modes of treatment; and at his (Dr. Berger's) suggestion, the Rob of l'Affecteur was given, and with good effects. "The remarkable recovery of this gentleman, and the difficulty of obtaining an adequate supply of the rob for extensive use, owing to the restrictions that at that time existed in our commercial intercourse with Europe, led Dr. M'Nevin, who was one of the physicians in consultation, to give publicity to its composition and its worth. He accordingly published, in the third volume of the Medical and Philosophical Journal and Review, the recipe of M. Allion, a French chemist, for its preparation. The remedy prepared according to this recipe, with the exception of substituting the bark of sassafras, or the shavings of guaiacum for the marsh reed-grass, was soon after employed by several of our city practitioners, with the usual happy results. Among many patients, Mr. Swaim, then a book binder, living in this city, experienced its beneficial effects *in his own person;* and soon after succeeded in obtaining from Dr. N. J. Quackenboss, the practitioner who had administered it to him, the recipe for its formation, and the directions for its employment: whereupon, he removed to Philadelphia, and set forth the vegetable syrup, which he denominated Swaim's Panacea, for the treatment of those diseases for which the rob had been so long celebrated. In the first instance, Mr. Swaim's directions for using his panacea, for preparing the sarsaparilla ptisan, and the quantity and times of taking it, in conjunction with the syrup, were the same, nearly verbatim, as those given by Dr. M'Nevin, in the publication above referred to, for the use of the rob; but of late he has altered the directions considerably, and has ceased to insist on the conjoined use of the sarsaparilla ptisan, even in small quantities. The flavour of the sassafras in the syrup first prepared by Swaim was very perceptible; but it is now the opinion of many that he has substituted the leaves of the Pipsisewa (Chimaphila corymbosa of Pursh) for the marsh reed grass, sassafras, or guaiacum, which we think very probable. However this may be, the syrup also contains the oil of winter green; (ol gaultheriæ;) for its flavour is evident both to the smell and taste. Swaim's object in this addition is doubtless to disguise the other materials, and to render the medicine agreeable to the taste; but it may also be a useful addition as a stimulant and carminative, obviating that loathing and disgust of the medicine, which sometimes occurs from its long continued use."*

To this interesting statement the committee will add, that when Swaim first began to vend his syrup in this city, in the year 1820, the taste of honey was very perceptible in it, as in the original French preparation; but of late years the syrup appears to have been made for the most part, if not entirely, of sugar. The addition of the winter green serves still more to disguise its taste and the nature of the other ingredients. Had Swaim stopped here, evidence similar to that adduced in favour of the French prepara-

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* That physicians generally may have it in their power to prescribe the syrup of sarsaparilla, to which Swaim has affixed the title of Panacea, we subjoin the recipe of M. Allion, above alluded to.

℞. Rad. Sarsap.	
Arund. Phragmit. *āā.*	℥xxx.
Flor. Borag. Offic.	ʒviii.
Fol. Sennæ.	
Flor. Rosar. *āā.*	℥ii.
Sacchar.	
Mel. Opt. *āā.*	℔vi.

Boil the sarsaparilla and marsh reed grass, in nine pints of water, for one hour; strain off the decoction, and pour the same quantity of water on the residuum, which is to be boiled for two hours: towards the end of the boiling, add the borage flowers, senna and rose leaves; then strain off; and to both decoctions, add the sugar and honey, and boil the whole to the consistence of a syrup.

The principal difference between this, and the recipe for the syrup of sarsaparilla, as given in the French Codex, consists in the omission of the reed grass, and the introduction of aniseed, and in the mode of preparation. This recipe was adopted by the compilers of the United States Pharmacopœia, which was formed in 1820, by merely substituting liquorice root for the borage flowers. The ordinary dose, is two to three ounces twice a day; with, or without a grain of corrosive sublimate added to each pound. The patient, at the same time, is to take freely of sarsaparilla decoction, or ptisan. The diet will, of course, be regulated by the medical attendant in accordance with his knowledge of the stage of the disease, and the peculiarities in the constitution of the patient.

The preparation, as directed by the French Codex, is nearly the same as the *Sirop de Cuisinier*, which has been for some years used in the Philadelphia Alms House Infirmary. It is made up by most of our apothecaries; and both on the score of efficaciousness and moderate price, is entitled to a decided preference over any of the Panaceas.

tion might have been extended to his; with the large reservations required by his want of knowledge of pharmacy and of medicine, and the continual misapplication of the remedy, by a wrong selection of cases: but, in an evil hour, the plan of mixing corrosive sublimate with at least certain parcels of his Panacea was adopted; and ignorance, vexatious before, was then armed with an instrument of mischief and destruction.

It must be familiar to most medical men, that a certain portion of corrosive sublimate can be suspended in vegetable syrup, and so blended as to defy detection by chemical analysis: and it has been ascertained, that the Rob de l'Affecteur has contained this mercurial salt, in the proportion of a grain, or a grain and a half, to a pint, without its presence being made sensible by chemical tests. This circumstance will explain our inability to discover the existence of mercury in certain nostrums, except by their peculiar effects; such as salivation, and the train of disorders of the digestive organs and nervous system, following the injudicious use of the mineral. Submitted to this test, the Panacea of Swaim has, beyond all doubt or equivocation, mercury as one of the ingredients frequently, though not constantly, entering into its composition. If occasion required it, a most voluminous mass of testimony might be collected in proof of this position. Some strong facts have been already placed before the Society to show the sialagogue or salivating property of the Panacea. Dr. Gibson avers, that, in several cases which came under his notice, salivation followed the use of it. The testimony of Drs. Emlen, Harris, Horner, Hopkinson, and Griffith,* is conclusive to the same effect. Among other documents on this head, the committee have been furnished with the case of a gentleman near Petersburgh in Virginia, advanced in life, who took the Panacea for several large ulcers on his legs and various parts of his body. After he had finished one bottle, and commenced on the second, he suffered from severe salivation, and an inflammation and swelling of the glands of the mouth. He now desisted from its use, and, after a time, entirely recovered from the salivation: but a fresh trial of the nostrum was followed by the same effects as before, viz. profuse salivation. The dose in which this gentleman first used the

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* See Appendix (C); in which Dr. Griffith relates the history of a case of salivation from the use of the Panacea, followed by fatal hæmorrhage.

Panacea was a wine-glass-ful; but his stomach could not bear this, and he reduced the quantity to a tea-spoon-ful three times a day. The appearance of mercurial eruptions, and the disorder of the stomach and bowels, sometimes of an incurable nature, consequent on the use of the Panacea, are also still farther illustrative of its mercurial character. Reference may be instructively made to Dr. S. Jackson's letter on this subject.*

The committee, after a careful examination of the evidence, both written and verbal, submitted to them, respecting the sensible properties, presumed composition, and curative and deleterious effects on the animal economy, of Swaim's Panacea, are led to the following conclusions and opinions.—This syrup, when free from any mercurial preparation, not only fails to exhibit virtues as a curative agent superior to various compound decoctions and syrups of sarsaparilla, which have been administered in the regular practice of medicine for the last two hundred and fifty years, in the different stages of syphilis, and in chronic rheumatism and cutaneous complaints, but is inferior in efficacy to some of them, as well on account of the variableness of its composition, as from the occasional loss of the medical properties, and the adulteration of certain articles entering into it. In so large a manufactory as that of Swaim, where no supervision can be exercised on the part of a physician, nor rival efforts made by apothecaries, we are deprived of the usual pledges that the composition called Panacea shall be of uniform strength and freshness; and hence, one cause, in addition to others already assigned, of its frequent failures, in the class of diseases, so many of which are benefited by the syrup of sarsaparilla, properly prepared and judiciously administered.

When the syrup contains corrosive sublimate, the preparation is still more objectionable. While all physicians are aware of the occasional efficacy of mercury, in certain stages of syphilis, and in scrofula, cutaneous diseases, ulcers, and hepatic affections, they are also well apprized of the caution with which this metal must be administered under any form, and of the great delicacy and skill requisite in the selection of cases of the above mentioned maladies, in which it can be used without producing serious, and too often irreparable mischief. It is this knowledge which has always made medical men so wary, in the use of this as well as other powerful articles of the materia medica. But that empirics, ignorant and consequently regardless of the necessity of such caution, have, at the expense of the health and lives of thousands, performed some cures by the indiscriminate use, or rather shameful abuse of mercury, especially of corrosive sublimate, and of arsenic, is a fact of frequent recurrence in the history of popular errors. We are not in possession of any salutary exceptions to the baneful tendency of the pretensions of empirics to allay suffering and cure disease. The Panacea of Swaim is on the same footing with all the quack medicines which have so often preceded its introduction. Imperfect admixture and suspension of the corrosive sublimate, and, of course, comparative inertness of one portion of the syrup, and the most deleterious and poisonous effects of the other, are some of the evils attendant on its secret manufacture. If to these be added, the indiscriminate recommendation of the Panacea for every form of disease, to persons ignorant of the nature and stage of their malady, ignorant of what they are swallowing, and totally unable to foresee, and of course unprepared to prevent or mitigate, its deleterious effects, or to avail themselves in time of the counsel and assistance of their regular medical advisers, a faint idea may be entertained of the mischief which has ensued on the use of this so much and so fatally lauded nostrum. The committee have already spoken of the pretensions of its proprietor to cure, by its means, certain specified diseases. They have exhibited the utter fallacy of these pretensions; and will now add their conviction, founded on experience, that when the same, or nearly a similar formula has been prescribed by the regular physicians, success has followed its use in cases in which the Panacea had either failed to do good or was injurious. The reason of this difference of result is obviously to be found in the judicious *timing* of a remedy on the part of a physician; a word which has no place in the vocabulary of a quack, any more than the practice could be appreciated by his limited capacity. But were the merits of this or any other Panacea or quack medicine of even a decided nature, the insurmountable objection remains against receiving, under any circumstances, into medical practice, or of fostering by medical eulogy, the use of a secret compound; since there is so little certainty of its uniform preparation, that the recommendation of a bottle of Panacea to day, cannot apply to another bottle prepared to-morrow. The power withheld from the members of the medical faculty of exercising any supervision and correction in this secret manufacture, is not compensated for by any pledge which the individual, who claims the exclusive right, can furnish, on the score of talents, education, or philanthropy. No physician could conscientiously prescribe, nor apothecary vend, calomel or tartar emetic, prepared, no matter by whom, if, on inquiry and comparison, the different portions of the article were of unequal strength, and possessed of different chemical properties: still less could a physician or apothecary, with any shadow of propriety, extend the slightest countenance or encouragement to any one who should arrogate to himself the exclusive right of preparing calomel or tartar emetic, and yet refuse permission for competent persons to witness his manufacture, and to point out the errors in his mode of conducting it.

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* See Appendix [D].

It is a matter of deep regret to the committee, as they are well assured it has long been to the society, that circumstances should render it necessary to enforce a position, the truth of which has always been admitted by the thinking men in every profession, and which was received as an axiom among physicians. A hope may now, however, be reasonably entertained, that, although the correctness of the general principle has not, as in former times, carried with it entire conviction, the direct specification of facts will, in future, produce unanimity of sentiment among medical men, notwithstanding the partial aberration into which some of them may, in a moment of misplaced good nature, have been betrayed. The time is now come, or, more correctly speaking, the necessity is as urgent as ever, for a line of demarcation to be drawn between the advocates of empiricism, with all its unavoidably attendant train of evils, and the rightful members of a liberal profession, the friends of learning and of science. What physician, who retains the high conscientious feelings of his noble calling, will subject himself to the imputation of conniving with error for the wages of imposture? Or will the eulogist of empirics and empiricism, console himself with the hard alternative of escaping judgment of corruption, at the expense of his understanding; even though an observing world should allow him the option of his sentence?

Another evil, of scarcely less magnitude than the one which the committee have just been deprecating, is, the currency given by the daily press, to every garbled and partial statement of cures alleged to have been effected by the various nostrums now in vogue. This course is greatly at variance with the presumed duties of newspaper editors; who are not wont, in matters alien from party politics, to be the ready echoes of ex-parte statements, which may exercise a pernicious influence over the health and morals of the community. In this instance, however, their laudatory notices, whether original or republished, are well calculated to encourage a worse than lottery gambling among their poorer and less enlightened fellow citizens; by leading these latter to an expenditure of money entirely beyond their means, for which not one out of a hundred receives an adequate equivalent; while very many have their health irreparably injured. It is, at present, inconceivable, how some, who value themselves on their nice scholarship, and who are, commonly, so prone to dilate on their sensitive regard for the public weal and the cause of justice, should signalize themselves on this occasion, as eulogists of ignorant conjecture and random experiment, even to the exclusion, in their papers, of counter and more correct statements of the true nature of the alleged wonder-working powers of Panaceas.

The best commentary on this systematized abetting of the cause of empiricism, is to be met with in the increased number of empirics, and the greater boldness and presumptuous ignorance of those who were the first in the successful career of deception. The Panacea of Swaim was used in cancerous affections, and was found to fail so signally in producing any salutary effect, as to compel its proprietor to desist from recommending it in such cases. But mark the consequence. In place of retiring abashed from public notice, Mr. Swaim, who had persuaded physicians to certify in favour of his Panacea, by alleging his ignorance of diseases and of remedies, and expressing his wish merely to prepare a useful compound, to be prescribed by them, now assumes the province of a surgeon, and, emboldened, by past immunity, from merited censure, asserts his ability to cure cancers, by certain plasters and preparations, known, as he avers, to himself alone. Swayed by the authority of the certificates of some physicians, and the frequent puffs of newspaper editors in praise of the Panacea, Mrs. *****, a lady from South Carolina, placed herself under Swaim's care, for a corroding ulcer of the cheek and nose. After the lapse of a certain time, and the application of a plaster, which was said to have "drawn out the cancer by the root," the public was duly apprized, in the National Gazette, of the wonderful cure alleged to have been effected on this lady, after all the skill of the medical faculty had failed to afford relief. The facts are, that, though the disease was, for a while, alleviated, by means familiar to the profession, it was never cured; and is now in a worse state than before. The notoriety of this case, in consequence of conversational and newspaper puffs, induced another lady, with a cancerous affection of the chin and lip, also from South Carolina, to place herself under this new cancer doctor, of one who acknowledged that he knew nothing about diseases or remedies. Her condition has been adverted to in Dr. EMLEN's communication. The third case was of a lady from Maryland; who, notwithstanding the advice of her distinguished medical attendant, to avoid harsh measures for her disease, a cancer of the breast, had recourse to Swaim, to *cure* her. He was intrusted to do that, which he never could do, on the strength of what he had never done. After many months of acute suffering from his applications, and with her disease aggravated, she has abandoned the Panacea man, and is now under the care of Drs. PHYSICK and HORNER. Facts of this nature are pregnant with instruction. If the experience of former times, and the lessons of sound and practised judgment, had been allowed their proper weight, they ought never to have happened. The responsibility for their occurrence must, perhaps, be divided; and each one concerned will, no doubt, endeavour to incur as small a share as possible.

The information obtained by the committee, in reply to the circular of the Medical Society, has been chiefly on the subject of the Panacea of Swaim: but, as far as facts have come to their knowledge, there is every reason to believe, that the other Panaceas, and the Catholicon, and Columbian Syrup, are, in composition and general effects, similar to, if not identical with, the nostrum of Swaim. The proprietors and venders of all of them publish accounts of wonderful cures, performed by their use; but all ought to be viewed with equal mistrust, and, for the reasons already given, be treated with no favour by the regular practitioner, who regards himself as one of the guardians of the health of his fellow citizens.

The cases which have been related to the committee, of the harsh and violent effects of a preparation, sold under the name of Swaim's Vermifuge, warrant their cautioning their medical brethren against its use; and urging them, as far as their influence extends, to forbid mothers, or heads of families, from giving to their children, a mixture, which, at times, operates with all the harshness of a poison.

W. E. HORNER, Chairman,
THOS. HARRIS,
JOSEPH KLAPP,
CHARLES D. MEIGS,
JOHN BELL,
Committee.

December 15, 1827.

APPENDIX.

[A]—pp. 151. 161.

SUCH extensive mischief has resulted to the public, and more particularly to the poorer classes of the community, from the countenance injudiciously given to various empirical nostrums, by members of the medical profession, that it becomes the duty of every one who regards the proper interests of society, to expose, as far as possible, the fallacy of the evidence urged in favour of their *miraculous* powers. With this view, I tender you the following remarks.—

Mr. Swaim, armed with a certificate, signed by Dr. WILLIAM PRICE, and another by SAMUEL MASON, the one at the time a Surgeon, and the other a former steward of the Pennsylvania Hospital, has asserted, that his Panacea received the sanction of the Surgeons of that Institution, and that its effects were attended with the happiest results in those cases in which it was employed.

The facts of the case are these. By the express desire of Dr.

William Price, the two managers then on duty permitted a trial of the Panacea, under the superintendence of Mr. Swaim.

This permission was necessary, on account of a law of the Hospital, which prohibited any practitioner from interfering with the treatment of the patients, unless he was regularly elected an officer of the institution; and, as the introduction of Mr. Swaim, did undoubtedly give great offence to some of Dr. Price's colleagues in office, the step could not have been taken without the sanction of the managers. But, in granting this sanction, those gentlemen transcended their prerogative, and encroached upon that of the board.

The remedy was employed regularly, in only two cases that I can recollect; and one other employed it after leaving the Hospital. The former, to whom the certificate of Dr. Price refers, were, Mrs. Tregomain, a woman of a scrofulous diathesis, affected with extensive ulceration of the hand and cheek, apparently resulting from disease of the periosteum; and Owen Laughlin—with necrosis of the upper jaw, on the left side.

In the absence of my senior colleague, Dr. T. H. Ritchie, those patients fell properly to my care, as House-Surgeon, some time before their discharge; but, as I was unwilling to associate myself in any manner with Mr. Swaim, I took no charge of those cases, merely contenting myself with silently watching the progress of the disease.

That Mrs. Tregomain improved under the use of the Panacea, is certainly true, and that she left the house nearly well, is also true; but I can only account for the unqualified language of Dr. Price's certificate, by supposing that his sanguine admiration of a remedy, which shortly after led him to Europe, as its avowed disseminator, must have induced him to believe, too readily, and without sufficient examination, the apparent proofs of permanent cure, for I well recollect to have seen a *discharge from one of the ulcers on the cheek the very day of her quitting the Hospital.* Add to this, that Mrs. Tregomain assured me that her disease had been nearly cured at several different times, previous to her admission into the Hospital; and that, at the time of commencing the use of the Panacea, she had been for some time improving by the effect of other remedies; and we shall be inclined to doubt the very superior agency of the nostrum in this case.

This unfortunate woman went to Charleston or Savannah, with a professed, but illegal protector, who died there; and she subsequently destroyed herself by taking laudanum. I was informed by a gentleman who had received a letter from her landlord, during the inquiries growing out of the refusal of several spurious drafts of her companion, on a wealthy house in this city, that her despair was the result of her inability to gain a livelihood, *in consequence of the condition of her hand, which was "covered with sores."*

With regard to the case of Owen Laughlin, my recollection is clear, that I was astonished at the employment of the Panacea, in a case that must speedily terminate favourably by the powers of nature. The patient had a necrosed jaw, with the sequestrum loose. It came away in a short time, as might have been expected; and the patient recovered.

The same remedy was also employed in the case of a seaman, by the name of Anderson; but this patient was not placed under my eye, and I have no recollection of it.

Robert Ryan, to whom the certificate of SAMUEL MASON refers, was affected with necrosis, which destroyed nearly all the shaft of the bone; he generally enjoyed good health during the periods which elapsed between the removal of the sequestra; and at these times he officiated as an assistant in the surgical wards: so that the picture of misery which he is said to have suffered during the whole time of his residence in the Hospital, is certainly drawn in colours far too deep for nature. Robert suffered exceedingly at times, when a sequestrum was loosening rapidly, as occurred perhaps two or three times a year, during four or five years that I watched the case—at other times he was a gay and lively man, having no more pain to contend with, than is usual in necrosis. His last sequestrum came away while I was absent; but I have been informed, both by his physicians and himself, that, on this occasion the entire upper part of the dead shaft of the bone was removed, and Robert recovered his health with great rapidity. During this convalescence he commenced the use of the Panacea, and perhaps the most that can be said, is, that it did not retard the cure.

Thus it will be seen, that the Panacea has never been properly introduced into the Pennsylvania Hospital; and that the few cases in which it was employed were ill selected, and of doubtful result.

R. COATES, M. D.

[B]—pp. 165. 167.

Case of Death following the Use of the Panacea of Swaim; transmitted in a letter from Dr. HOPKINSON to the Committee.

A young married woman came under my care, several years since; chiefly on account of a partial anchylosis of the hip-joint, on the right side. She was, moreover, much emaciated; and had not menstruated for a considerable time, which she attributed to exposure to cold. From her own account, it would appear, that most of her complaints arose from rheumatism; under which she had so long suffered, that her constitution appeared completely broken down. She had what I would term the scrofulous diathesis. The affection of the hip, she affirmed, was the result of exposure to a current of air, and had been considered and treated, ever since, entirely as rheumatic. In addition to this, she had, in the groin of the same side, a fistulous orifice, from which was discharged, in moderate quantity, a watery secretion. Further particulars, not being essential to the objects of this history, are omitted.

She was, at the time I saw her first, under the use of the Panacea, of which she had taken, as well as I can remember, nearly two bottles. This medicine was immediately laid aside, and she was treated mildly, according to the symptoms, the minutiæ of which are not recollected, with a moderate diet, &c. She took, for some time, however, HOOPER's pills, for the purpose of keeping her bowels soluble, and with a hope, at the same time, of restoring the menstrual discharge. All that was done for her seemed to effect no improvement in her condition. Finally, at the urgent solicitation of her mother and herself, she was permitted to discontinue all other medicines, and to resume the use of the Panacea; which, I may observe, had been originally given to her to cure her rheumatism. Accordingly, another bottle was sent for.

A short time after this, she complained of great soreness of her mouth and throat; which resulted in a salivation, followed by diarrhœa of the most obstinate nature. These symptoms were immediately attributed to the pills which I had ordered; nor could I ever convince her, that not a grain of mercury had been given to her in my prescriptions. In this belief she died, about a week or two after the appearance of the two last named symptoms.

Before her decease, I had, from my suspicions, questioned her mother, concerning the directions the latter had received, as to the manner of using the Panacea, &c. Her unbiassed and unpretending account was to the following effect: That, first, a white powder was put into an empty bottle in her presence—that this bottle was then filled, down stairs, with the syrup, and she directed, always to shake the bottle well before the medicine was given. This injunction was faithfully and fatally pursued. Drs. Hodge and Hays both saw the case, previous to its termination; and assisted in the post mortem examinations, which developed the following state of things within.

The orifice upon the thigh, led to an extensive sinus, which had originated in a caries of some of the vertebræ. The hip-joint was not examined, but it had no connexion whatever with the sinus. In the bowels were found the most important marks of disease; for, throughout nearly the whole tract of the primæ viæ, we discovered ulcers in the mucous coat, of various sizes, and such as are said to arise from the inordinate effects of corrosive sublimate. These, at once, explained the symptoms, the obstinacy, and the result of this unfortunate case.

The presumptive conclusion, therefore, is, that this woman took corrosive sublimate, in the syrup given to her; and that from it arose those ulcerations, which induced the diarrhœa, and finally destroyed her.

I. P. HOPKINSON, M. D.

[C]—p. 169.

Case of Death from Hæmorrhage, following the Use of the Panacea of Swaim; recorded in a letter from Dr. Griffith to the Committee.

The only quack medicine alluded to in your circular of June last, of which I have been enabled to judge, is "Swaim's Panacea." This I have seen administered in several cases, generally without producing any beneficial effects. In one case, however, of obstinate and ill conditioned ulcers, it was certainly of use. Of its dangerous nature when taken without due attention, I met with a melancholy instance soon after its introduction. In 182–, I was called to a man, at that time residing in Blackberry Alley, said to be dying of hæmorrhage. I found him discharging great quantities of blood from his mouth and nose, and threatened with suffocation from his inability to rise. The flow proceeded from large and deep ulcerations of the mouth, which implicated several small arteries. By the usual means, the hæmorrhage was arrested. On inquiry, I found that he had been afflicted with rheumatic pains, for some time, for which some friends had recommended Swaim's Panacea: he had taken about three or four bottles, when it produced a violent salivation, which ended in extensive sloughing of the jaws. He declared that he had taken no other medicine. Next day, I requested Dr. Hays to see him with me, which he did. The man remained in a tolerably comfortable situation for a day or two; when the hæmorrhage again occurred, and, before any assistance could be rendered, he sank under the discharge.

R. EGLESFIELD GRIFFITH, M. D.

[D]—p. 170.

Statement of the Effects of Swaim's Panacea. By Dr. Jackson.

The first knowledge I had of Swaim's Panacea, was in the winter of 1821–22. My younger brother, from an injury received in the ankle joint, had long been labouring under a chronic inflammation of its ligaments, and probably its cartilages; and which eventuated in anchylosis. A small sinus remained, from which was occasionally discharged a sero-puruloid fluid, never exceeding a few drops at a time.

A zealous partizan of the Panacea, became very urgent that my brother should give it a trial. Satisfied that no means could remedy the condition of the joint; and that time, with warm weather, to admit of exercise, was alone required to restore his general strength, I was opposed to the quackery that was so much desired. At this time, a young lad of this city, Master W., was taking the Panacea, for a disease of the hip-joint; and, it was asserted boldly, was recovering from its employment. In a few months after, however, he died. A man whose neck was covered with scars, said to proceed from ulcers cured by the Panacea, was brought to my brother and the family, as a specimen of its wondrous powers. These means created so powerful an impression on the minds of my brother and mother, that they became very solicitous to employ it; and, believing no harm would probably result from its use, I withdrew my opposition, and my brother commenced taking the Panacea. I examined the first bottle that was procured; and immediately pronounced it to be the syrup of Cuisinier, a remedy I had been accustomed to prepare, and prescribe in old cutaneous ulcerations, and syphiloid affections. My opinion was, however, attributed to professional prejudice.*

At this time, Mr. Swaim requested me to accompany him to visit a patient in Kensington, affected, as he said, with a cancer, and who was about to commence with his medicine—that I might be satisfied of its powers. This patient was Mrs. Hooker; whose case is detailed very imperfectly in Swaim's pamphlet of "Cases cured, &c." page 37; and of which a certificate was given by the late Dr. KNIGHT.

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* In my brother, no marked effect resulted from the Panacea at first. It was continued until he had taken six or eight bottles. While under its use, a slight cough came on that was attributed to cold: it grew worse; became unyielding; and finally, the unequivocal symptoms of tuberculous phthisis were unfolded. Early in the spring, the expectations that had been built on the amiable character, and promising talents of this youth, were blasted by his death. I have frequently reproached myself with consenting to the experimental quackery in his case; and have apprehended that the development of tubercles in the lungs, was the consequence of the irritation of the corrosive sublimate of the Panacea, in a constitution strongly disposed to scrofula.

This woman I found under a horrible salivation, brought on by an excessive use of mercury. She had been placed under this treatment by Dr. ——, of the Northern Liberties; in consequence of blotches and pimples appearing on the skin, succeeding to delivery. She had taken, according to her account, an immoderate quantity of pills, which appeared to me to contain corrosive sublimate.

At the time I saw her, the saliva was running in an incessant stream from her mouth. The fauces and gums were ulcerated, and a large ulcer existed on one of the feet. Her disease was clearly mercurial, and brought on by her attending physician.

I assured Mr. Swaim, he would find no difficulty in curing that case, and the first step towards it was throwing her box of pills into the fire: good nourishing diet, even without his Panacea, would complete the rest. The infant of this woman was emaciated, from the ill condition of its mother's milk; but I do not recollect that it had any ulcerations on its surface.

Returning from our visit to this patient, I told Mr. Swaim, I was satisfied his Panacea was the same as the syrup of Cuisinier; the mode of preparing which I mentioned to him: he turned round, and asked me if I "told that to the doctors."

The next case that fell under my notice, in which the Panacea had been employed, was that of a lady of this city, who sent for me on account of a violent ophthalmia, with which she had been attacked. Whilst examining the eye, I was struck with the mercurial fœtor of her breath, and inquired into its cause. She told me her mouth had become very sore, and the teeth were so tender she could scarcely eat; and I found, on examining the gums, she was salivated. This she insisted was impossible, as she had taken nothing but Swaim's Panacea: I assured her nothing was more likely, as I was satisfied the active principle was corrosive sublimate. Mr. Swaim called the same day to see his patient; and, when reproached for the salivation that had been induced, he declared it was produced by his medicine stirring up the old mercury in her system. This lady had not, however, for more than eight years, taken a single grain of mercury in any shape. Mr. Swaim took away the bottle of Panacea, though not half consumed, and replaced it with another.

Soon after my election as one of the physicians of the Alms

House, I gave to the apothecary of that establishment, Mr. Marks, the formula for preparing Cuisinier's syrup. It was immediately employed in some cases of cutaneous ulceration of long standing, and with great success. Since that period, it has been employed in that Institution; during which, not a bottle of Swaim's Panacea has been administered to the patients. In the Alms House, I have frequently had patients under my charge, who had been treated ineffectually by Mr. Swaim, with his Panacea; and I have had several in private practice, in which it had proved wholly inefficacious. Dr. J. Rhea Barton has exhibited to me two patients, one of true scrofula; both of whom were promised, unhesitatingly, a cure from the Panacea, but whose diseases became infinitely worse under the treatment, and were finally abandoned. One of them has since been entirely cured under the care of Dr. Barton.

SAMUEL JACKSON, M. D.

BIBLIOGRAPHICAL NOTICES.

ARTICLE XVII.—*Elements of Operative Midwifery; comprising a Description of certain New and Improved Powers for assisting Difficult and Dangerous Labours. Illustrated by Plates: With Cautionary Strictures on the Improper use of Instruments.* By DAVID D. DAVIS, M. D. &c. &c. London, 1825. 4to. pp. 345.

THIS work is divided into five sections; of which *Section I.* consists of general and introductory remarks on Operative Midwifery. *Section II.* is of the use of Obstetric Instruments. *Section III.*—Remarks on the use and special properties of the Long Forceps; with suggestions for certain other modifications of Obstetric Instruments. *Section IV.*—Of other Expedients for preserving the lives both of the mother and her offspring. *Section V.*—Of Obstetric Operations, calculated to insure the more important life of the mother.

Our readers who are unacquainted with the above excellent work of Dr. DAVIS, would doubtless be pleased to have, at least, an ample and complete outline of the author's work. In giving, however, as above, a list of his sections, we have only indicated the masses, as it were, of which the volume is composed; and are sorry that we cannot, in this place, exhibit more of the details. Such works as these are calculated to obviate the too current and injurious impressions as to the futility of close study, or extensive observation for the acquisition of a competent knowledge of midwifery; of which the duties and doctrines are thought to be few and simple. Dr. DAVIS complains of the increase of this sentiment, even among members of the profession; and justly attributes it to want of proper knowledge. Those who hold such doctrines are, says he, the very people to drive the steel into the living fœtal brain—they are "often too ignorant to recognise some of the difficulties here supposed, and therefore, probably, wholesale dealers in one or two of the capital operations of midwifery." We might cry out, alas! for Obstetrics on this side of the Atlantic, if the art requires such an apparatus of instruments as Dr. DAVIS describes in his work. An apparatus of forceps of every length, shape, curve, and form, whatsoever, In some, the blades of different lengths; in others, the two blades of different breadths, fenestræ, &c. The crotchets and instruments for removing the skull after embryotomy, are extremely well contrived, both for safety and efficacy; but we must refer to the work itself, and to the lithographic prints, of which there are twenty, most of them containing several figures.

One might be led to suspect a great fondness for the use of instruments, in the author of so extensive a work on operative midwifery: but the author says, (p. 16,) and having read the whole work carefully we can bear witness for him: "It will, indeed, soon be seen, that there are no inducements held out in the present publication for rash experiments on human life; and that the few *additional* or *improved powers* which it professes to furnish for the art, are never recommended to be employed but by persons of ample competence, both to judge of their expediency, and to use them with perfect dexterity and success."

The author holds the following strain in relation to the subject of his volume.

"The truth is, and it should not be concealed by side wind compliments, that the entire subject of operative midwifery, has been in a state of the most abject neglect for the last forty years. By this I do not mean to assert, that instruments of one kind or another have not been employed with sufficient frequency; nor that, in many instances, they have not been employed unnecessarily during that period. God knows, the reverse is my firm conviction. What, on the contrary, I do mean to assert, is, that this essential department of obstetrics has been shamefully undervalued as a study; and its practice, as might be expected from a general incompetence for its duties, has been the subject of all sort of abuses. *I may be mistaken;* but it is really my opinion, that not one practitioner in fifty, during the last fifty years, has possessed a competent elementary knowledge of the use of obstetrical instruments, upon first engaging in the practice of his profession: and how could it be otherwise, when the proper mechanics of the art have never been made the subject of adequate instruction in our schools?"

The importance of study, careful study, is exposed as follows, in speaking of the pretensions to confidence which have no good foundation in study, in those practitioners who hope never to have difficult cases in their practice. "Supposing the real circumstances of these pretensions were to become known, how would the argument, founded on the alleged unfrequency of dangerous births, be received by a distracted husband, suddenly bereft of an almost idolized wife, his best, or perchance his only earthly treasure, by the bungling incompetence of her medical attendant? As a matter of moral right, a man surely can have no more right, as to the principle of the thing, to incur the chance, or even a remote possibility which he could avoid, of becoming the cause of a premature loss of life to one individual, than he can have of becoming the instrument of a similar fate to one hundred."

Such is the bold style in which Dr. Davis denounces the practitioner who will not take pains to make himself acquainted with his duties; and we freely commend to the attention of the profession, the whole of his able composition on the duties and responsibilities which in this matter lie so heavily on them.

The whole volume is full of sound and careful doctrine; some of the new powers are unquestionably of great importance; the use of instruments, generally, is fenced round in so many clear, available, and merciful precepts, and the examples are so instructive, that we heartily recommend a reprint of the book for the use of the American practitioner.

ARTICLE XVIII.—*Observations upon the Origin and Latent Period of Fever.* By HENRY MARSH, A. B. M. D. M. R. I. A. Assistant Physician to Steevens's Hospital, Physician to the Institution for the Diseases of Children, Lecturer on the Practice of Medicine at the Medico-Chirurgical School, Park Street, &c. &c.—Dublin Hospital Reports, pp. 444. 536.

THE questions discussed in the essay, the title of which is given above, are of engrossing interest, not more to medical men than to society at large. On the manner in which they are decided, will rest, in a great degree, the nature of the means adapted for prevention; which, to the guardians of medical police, is infinitely more important than the best devised method of cure.

Dr. MARSH, in his paper, proposes "to consider, first, the manner in which febrile disease is produced; secondly, the symptoms which manifest themselves during the latent period; thirdly, the treatment adapted to this stage of disease." He very properly insists on the necessity of interrogating nature herself, in order for us to obtain a correct knowledge of her operations; for which purpose we must engage in the laborious task of observing minutely, and of faithfully recording her own proceedings. The author uses the words contagion and infection synonymously; adding, that no animal poison can produce its specific effects, unless it come into contact with the body upon which it acts. We regret this adoption of two words to express what he believes to be the same phenomenon, when they have received different and distinct significations from many respectable authorities, and are, moreover, really susceptible of indicating two different sets of agencies. In agreeing with him, that "whether a poison be palpable or volatile, it must, to produce its effects, be applied to the living body," we think ourselves justifiable in affirming that there is no unequivocally demonstrated volatile contagion, which cannot be shown to assume also, at times, a palpable form. The variolous poison, which, it is admitted, may act in the former way, is, we all know, unquestionably presented to us likewise, in the latter shape. Where the poison, such as the syphilitic, always assumes a palpable form, we are satisfied with the fact, and inquire no farther. But when febrile effluvia are enumerated by the author, among the volatile and impalpable poisons, and are adduced as illustrative of contagion, we only see a begging of the question, and have a right to challenge him for proof. Certain it is, he cannot show the palpable poison, as in vaccinia and syphilis; nor can he demonstrate the volatile alternating with the palpable, as in small pox and measles; states of disease to which we apply the term contagious. We are at a loss, therefore, to see the grounds on which he applies the same word to two different series of phenomena, the product of very different and distinct classes of causes, as when he speaks of the contagion of fever; nor can we see the propriety of using two different terms for the same class of causes, as when he talks of syphilis or small pox being indiscriminately contagious or infectious. The palpable, and the volatile and palpable, ought, we apprehend, to receive significative terms, very distinct from the impalpable and volatile. Contagion is the term applied to animal poisons of the two first kinds, which both agree in being palpable; and, if the author does not think infection appropriate to the latter, or alleged impalpable cause of fever, we intreat him to select some other word, but to leave contagion where it now is.

Dr. MARSH gives a number of cases, some of which occurred under his own observation, and others were derived from his friends, in which physicians, students of medicine, nurses and others, while in attendance on patients with typhus fevers, have been suddenly assailed with an insupportable smell of the most offensive kind, which was, in some instances, followed by immediate and most intense head-ach, exhaustion of strength, and nausea. In a few hours afterwards, succeeded rigors, and all the symptoms of fever, similar to those under which their respective patients had been suffering. We transcribe one of these cases, as illustrative of the great change of treatment into which the faculty have been led, in typhus fever.

"A young gentleman was led, by motives of humanity, to visit some poor people who lived in a wretched room, in one of the narrow and filthy lanes of this city (Dublin.) There happened to be, at the time, two cases of bad fever in this small and ill ventilated apartment. On opening the door, the smell immediately sickened him. He returned home unwell, and spent an agitated and restless night. I met him on the next day accidentally in the street, and was at once struck with the remarkable change in the expression of his countenance. He was pale, his skin had a dingy, dirty appearance, there was a livid circle beneath his eyes, and he complained of great languor and debility. In the evening of that day, I visited him. I found him in bed; his eyes were deeply suffused, his cheeks much flushed, his skin intensely hot; mouth parched; tongue loaded; pulse 120, full and resisting; his breathing hurried and anxious, with frequent sighing. I immediately opened the temporal artery, and, placing him in the erect position, allowed the blood to flow in quantity about 24 ounces, until the colour fled from his cheek and lips. He felt very much relieved: and, though he spent the night in a restless manner, with delirium, yet he awoke on the following day quite free from fever, complaining only of weakness."

Though some of the persons whose cases are recorded by Dr. **Marsh**, had enjoyed their wonted good health, and been exempt from any undue exertion or fatigue, prior to their exposure, yet others had been exhausted by much mental and bodily labour or previous indisposition. Thus Dr. **Waring**, who died of the fever, had, before his visiting a patient labouring under typhus fever, "been engaged in lecturing for Dr. **Cleghorn**, during the preceding days, and had very much over-worked himself." And Dr. **Parkinson**, who also fell a victim to the disease, was, at the time of his visiting a person labouring under fever, "rather weak and delicate, and affected with a slight bowel complaint." We are told, in reference to Dr. **Connor**'s case, which ultimately ended in health, that, previously to the time of his having "been affected with fever, he had been a good deal cut up by hard reading and constant attendance at hospitals." The author's phraseology, when he tells us of one physician having been 'over-worked,' and another 'a good deal cut up,' is no doubt intended to be familiar; but, to our ears, the language of an ostler or a soldier is not well calculated to convey very accurate ideas of the fatigue and exhaustion produced by professional exertion. Low and cant expressions ought to be at least as studiously avoided by a medical writer, as the periphrasis of highly elaborated metaphor.

Dr. **Marsh**, in illustration of his views of the manner in which febrile miasmata and other poisons act primarily on the living body, gives some experiments on the effects of prussic acid applied to various parts of the sentient surface. The result was, that, in a space of time not exceeding five *seconds*, the effects of this poison were, in many cases, decidedly perceptible. He infers, from these and other similar phenomena, that the deleterious effects of febrile effluvia, and other morbific emanations and volatile poisons, are not dependent immediately on absorption, but on their simultaneous sedative impressions on the sentient extremities of the nerves and brain. Allusion is made to that portion of Dr. **Barry**'s experiments, which go to prove the suspension, or even prevention of the action of the most powerful poisons, applied to an abraded surface, by placing over the part an exhausted glass. Dr. **Marsh**, in admitting the fact, contests the validity of the inference attempted to be drawn, viz: that the cupping glass operates by preventing the pressure of the air, and consequently by preventing absorption. He believes, on the contrary, that the edge of the glass presses so strongly, and at times painfully, against the skin, as to produce all the effects of a *ligature*; and thus cuts off the communication between the parts within the glass, and the rest of the system: added to which, the capillaries of the included part are immensely distended, often to a degree sufficient to produce ecchymosis and petechiæ. In fine, there is not only a suspension of absorption, but every vital action must be impeded in a part so circumstanced: and "experiment has proved that the same effects are produced by a ligature round a limb as by the cupping glass; and a strong pressure made by a circular body without at all removing the pressure of the air, will be as efficacious as the exhausted glass. Thus the experiments with the cupping glasses neither prove "that absorption is necessary; nor, admitting its necessity, do they prove that atmospheric pressure has any thing to do with the matter."

Dr. Marsh next investigates the circumstances modifying the duration of the latent period of fever, or of that time which intervenes between the infliction of the injury (application of the cause) and the appearance of the first well marked symptoms of the disease. We find nothing very new in this part of his essay. He remarks, on that variety of fever, commonly and not inaptly termed brain fever, that it is of most frequent occurrence amongst those who have previously lived intemperately, and have been in habits of almost daily intoxication; so that drunkenness would appear to influence febrile disease among the poor, in the same manner as excessive action of the brain among the rich: and, if a comparison be instituted, a striking resemblance will be found to exist between the fever of an habitual drunkard, and the fever of those whose minds have been previously in a state of continual morbid excitement; such as those who are anxiously engaged in literary, professional, or mercantile pursuits, and whose minds are kept in a state of constant and often excessive activity. What our author states of the predisposition to disease induced by debilitating agencies, such as famine and cold, is familiar to our readers; and hence, however pertinent his observations and facts, we need not dwell on them here. He has an evident bias to the belief of the contagious nature of typhus fever—indeed he distinctly intimates his creed on this occasion. But still, with the laudable frankness of a lover of truth, more than of system, he acknowledges that he is inclined to adopt the opinion that the type of fever has not an exclusive connexion with the cause, but that it as much depends upon atmospheric influence, or constitutional diathesis, as upon the immediate source of disease. Thus, for example, he tells us, that, on occasions, intermittent fever has been the consequence of exposure to the effluvia arising from a patient affected by ordinary continued fever of the typhoid kind; typhus fever has assailed a nurse attending a fatal case of confluent small pox; and, in others, has resulted from intercourse with the patients sick of puerperal fever in a lying-in ward; and malaria is capable of producing fever of every type and form. Dr. Cheyne furnished the author with a brief sketch of an individual attacked with a fever, the symptoms of which were the same as those of the typhus gravior of nosologists; and yet the patient had not been exposed to contagion, nor could any other causes be assigned but loss of property, and of character, and wounded pride.

Dr. Marsh concludes his instructive paper by some observations upon the treatment suited to the stage of depression, or the latent period of fever; in which we cannot at present follow him. He details the pro's and con's in the use of emetics, purgatives, and antimonials; and enjoins absolute rest during the latent period. We would say that this last embraces all that it is necessary to advise the patient to conform to; but, by absolute rest, we understand not merely rest from locomotion, but from thought and digestion, as well as from vomiting and catharsis. We forbear, for want of space, and perhaps also because we are desirous of a more fitting occasion, from proffering our own sentiments on the question of contagion in fevers, other than the exanthematous.

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Article XIX.—*De L'Irritation et de la phlegmasie; ou Nouvelle Doctrine Médicale.* Par Victor Prus, Docteur en Médecine. Paris, 1825, 8vo. pp. 294.

This is one of those numerous publications, to which the controversy in relation to the new French doctrines has given birth. It appears to us to be deserving of notice, from the circumstance of its having obtained the prize offered by the Medical Society of Gard, (Nîmes,) for the best solution of the following proposition: To indicate the precise and definite sense that should be attached, in pathology, to the terms inflammation and irritation; and to draw from them useful practical inferences; the whole calculated to remove all confusion existing upon these points.

Dr. Prus is an avowed opponent of Broussais; but cheerfully admits, that, to the latter, the science of pathology is greatly indebted for the exposition of many important truths. His own doctrine he declares to be, "*entierement pathologique,*" in opposition to the "*doctrine physiologique;*" maintaining, in a long introduction, if we understand correctly the import of his arguments, that Physiology is capable of throwing but little or no light upon the nature of morbid actions; the læsions that we observe in the individual labouring under disease not being mere modifications of the healthy functions. Unfortunately, however, as it appears to us, for this purely pathological doctrine, the author found himself unable to enter into its exposition, until he had first explained his views of the physiology of the living tissues; and so strictly is his pathology based on the latter, that with their truth or falsity it must stand or fall.

Dr. Prus conceives that all the acts immediately produced by the exercise of the various tissues of which man is composed, may be reduced to four, viz. sensation, contraction or condensation, expansion or dilatation, and aggregation. A general idea of his pathology may be obtained from the following view of his classification of diseases. He arranges all diseases into five classes.

Class I. is composed of those consisting in "an augmentation of the vital properties:" it is divided into three genera. Gen. 1. augmentation of the vital properties of the nervous tissue; giving rise to excess of sensibility; (*active neuroses.*) Two varieties; *a*, of the cerebral system; *b*, of the ganglionic system. Gen. 2. augmentation of the vital properties of the contractile tissue: excess of contractility or of contraction. Three varieties, *a*, of the cerebro-muscular system; *b*, of the muscular system of organic life; (*convulsions—convulsive movements*;) *c*, of the excretory ducts; (*coarctations, retentions.*) Gen. 3. augmentation of the vital properties of all the tissues of one or many organs; (*sthenia, local or general.*)

Class II. "Diminution of the vital properties." Three genera. Gen. 1. The diminution existing in the nervous tissue, causing deficiency of sensibility; (*passive neuroses.*) Two varieties, as in class 1. gen. 1.—Gen. 2. The diminution existing in the contractile tissue: deficiency of contractility or of contraction. Three varieties, as in class 1. gen. 2.; with this exception, that variety *c*, in place of retentions, gives rise to *relaxations, incontinences.* Gen. 3. The diminution existing in all the tissues of one or many organs; (*asthenia, local or general.*) Two varieties; *a*, without stasis of fluids; (*simple debility;*) *b*, with stasis of fluids. The product of the stasis may be retained in the enfeebled vessels; (*passive engorgements, passive sub-inflammations, or passive inflammations;*) or the product of the stasis may escape from the enfeebled vessels; (*debility with flux;*) either from a solution of continuity; (*atonic wounds, ulcers ?*) or without solution of continuity; (*passive dropsies, hemorrhages, catarrhs, and transpirations.*)

Class III. "Augmentation of sensibility and expansibility, with suspension of contractility;" (*irritation.*) Two genera. Gen. 1. occurring in the expansile tissues not susceptible of an afflux of fluids; (*the most part of the spasms of authors—permanent dilatations without congestion—irritations not inflammatory;*) varying according as seated in the lungs, heart, uterus, stomach, intestines, &c. Gen. 2. occurring in the capillary vessels; (*irritation with afflux, or inflammatory.*) Two varieties; *a*, the product of the afflux being retained in the irritated vessels; (*active sub-inflammation, and inflammation;*) *b*, the product of the afflux being discharged from the irritated vessels; (*irritation with flux;*) either from solution of continuity; (*active wounds;*) or without solution of continuity; (*active dropsies, hemorrhages, catarrhs, certain exhalations, and cutaneous secretions.*)

Class IV. "Diminution of sensibility and expansibility, with augmentation of contractility;" (*a condition opposite to irritation;*) either in the iris; (*increased size of pupil;*) in the penis; (*impotency;*) in the female mammæ; (*absence of milk;*) or in the neck of the uterus—in the uterus, or in the fallopian tubes; (*dysmenorrhœa, amenorrhœa, sterility.*)

Class V. "Diseases with conjoint cause; or in which the vital alteration is only secondary." These conjoined causes are, 1. pathological fluids, properly so called, or virulent; 2. fluids not physiological, but not virulent; 3. the physiological fluids in too great quantity; (*plethora*, &c.;) 4. fluids effused, either in a cavity without external opening, or in the substance of organs; 5. fluids retained within their natural reservoirs; 6. fluids impeded in their circulation; 7. fluids having become solid and heterogeneous; (*indurations, scirrhus*, &c.;) 8. solids, deprived of life; (*gangrene, necrosis;*) 9. air or gas; (*emphysematous diseases;*) 10. miasmata, effluvia, and all poisons, the action of which is continued, and keeps up the disease it has produced; 11. excrescences, such as *polypi, steatomatous and fatty tumors*, &c.; 12. luxated and fractured bones; 13. calculi of the gall ducts, bladder, &c.; 14. foreign bodies, strictly speaking; 15. animated bodies, *worms, hydatids*, &c.; 16. in certain cases, the product of conception; (*difficult and laborious labours.*)

In dismissing this work, we may remark, that its author is one of those modern practitioners of the French school, who advocate the retention of the class of purgatives in our frequent and daily use; believing that their employment, when not carried to excess, is far from producing irritation of the stomach and bowels.

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ARTICLE XX.—*Electro-Magnetism. Being an Arrangement of the Principal Facts hitherto discovered in that Science. With Plates of the Apparatus.* By JACOB GREEN, M. D., Professor of Chemistry in Jefferson Medical College. Philadelphia, Dobson, 1827, 18mo. pp. 216, and 4 plates.

WE are fully disposed to welcome any thing American upon the subject of electricity; a science which is so deeply indebted to our country for important inquiries, made, too, at an epocha when by far less of elaborate research could be expected of it than at the present. It is, then, with much pleasure that we see a neat little volume, containing a compendious account of those more extended views, to which the labours of a Danish chemist have given rise, and which, we apprehend, are not yet sufficiently known among many of our countrymen.

Dr. GREEN's little volume consists principally, indeed, almost exclusively, of descriptions of experiments. He does not go into long and bewildering theoretical views; and perhaps we ought to blame him for what he evidently intends as a merit, the total omission of those mathematical calculations to which the electro-magnetic powers have been subjected. While he has endeavoured to avoid disgusting youth with a parade of difficulty, we are afraid that he has neglected to point out to them labours which they ought to achieve; and has prevented those whom greater leisure, or greater fondness for processes of [illegible]act ratiocination might have so led, from becoming aware of the food for the mathematical faculties which these beautiful studies really afford. We are well aware, that the great mass of medical readers are not to be expected to follow out these inquiries; but they ought to be aware of their existence, and might well excuse a single chapter of too elaborate thought, in a volume which supplies their minds with so many objects of novel interest. Still, we do not, for this reason, inflict on Dr. Green any very severe censure; as he must be considered as dictated to, in a great measure, by the nature of the public for which he writes; and if none but the gentlemen from West Point could understand it, he cannot be very heavily condemned in not presenting such matter to a body composed, perhaps, principally of physicians.

Were we to indulge in criticism, we might allege, that the arrangement of the volume is not methodical, and that some of the descriptions of experiments are not clear; especially where they are without figures, as is occasionally the fact. The former of these objections is, indeed, the less weighty, as the volume is modest, only pretending to furnish a list of the experiments and their results, and as these are, at present, hardly sufficiently numerous and symmetrical to form an arrangement.

In the appendix are, a slight, general sketch of magnetism, an essay on Galvanic manipulations, extracted from Mr. Faraday, notes on electric intensity, on the Aurora Borealis, and its connexion with magnetism, on the power of conducting caloric possessed by different metals, and on the *contrast between matter and mind*: some of them subjects, whose relevancy to the main object of his work is not very close.

QUARTERLY SUMMARY

OF MEDICAL AND SURGICAL INTELLIGENCE.

I. ANATOMY.

1. *Lymphatics.*—We *translate* the following article from the fourth volume of the Journal des Progrès des Sciences et Institutions Médicales.

"At the sitting of the Med. Phys. Society of Florence, March 18th, 1827, M. Lippi, (vide p. 163 of our No. 7, for July, 1827,) read a memoir in reply to that of M. Gamberai, read in the month of January. To diminish the value of those authorities in favour of whom Mr. G. had claimed the priority of discovery as regards the termination of the lymphatic vessels in veins, M. Lippi showed that the quotations referred to, do not determine either the nature of these lymphatics, their qualities as deferent or afferent, their constant occurrence, their number, nor their point of departure; and, for want of these details, he infers that those anastomoses were only regarded as anomalies, and not as a regular system of vessels: this seems to be proved by the silence of Haller, Winslow, Sabatier, Cuvier, Vicq D'Azyr, Portal, Soemmering, Bichat, Meckel, Adelon, Magendie, Sementini, and Tommasini, who omit them.

Regarding it as certain that M. Gamberai thinks the venous system is the agent of absorption, he challenges him to prove it, by demonstrating the existence of free venous capillaries, their absorbing power, and their presence in those membranes on which absorption takes place; all of which are things impossible to be proved, according to the experiments of the author; who denies to the sanguiferous vessels any participation whatever in the structure of the mucous and serous membranes, and does not suppose these membranes to be susceptible of inflammation, the contrary opinion being founded only on the redness communicated to them by the inflamed subjacent cellular tissue. Let us take the illustrious Mascagni as the representative of what is actually known on the subject of the lymphatic system. He regards the doctrine, which attributed the absorbent faculty exclusively to this system, and which had been rendered somewhat doubtful by the experiments of Magendie, Tiedemann, and Gmelin, as confirmed by the numerous lymphatico-venous anastomoses, so fully and variously demonstrated.

Mr. Lippi concludes, in the language of the illustrious physiologist of Padua, "that it is useless to answer further to the imaginary proofs of venous absorption."—From the Antologia Giornale de Sc. Firenze, &c. Maggio, 1827.

II. PHYSIOLOGY.

2. *Jouffroy on Sleep.*—When we *dream,* says M. Jouffroy, we surely sleep, but the mind does not sleep, since it thinks; the mind, therefore,

sometimes wakes while the senses sleep. It is not proved that the mind ever sleeps with the senses; for we cannot prove that the mind is not dreaming, even when we have no recollection of the dreams. People often dream, in whose memory no trace of the dream is left.

When a countryman goes to the capital, his sleep is at first disturbed by the noises of the streets; but after a few nights he can sleep as soundly at Paris, as on his farm; nevertheless, the noises remain exactly the same, and strike on his senses now, as much as at first. Why does the noise disturb him at first, and not afterwards? An analogous state of things is observable in waking. It is very difficult to fix the attention on a book when we are surrounded by persons engaged in loud conversation, but we at length acquire the power to do so, by habit. Now, says M. J., attention is the voluntary application of the mind to any subject: to have the attention distracted, is to cease to be occupied with the previous subject; it is attracted, or drawn away by a new sensation, foreign to the other; a weaker sensation will not distract from a stronger one. A man occupied with an affair that concerns his life or his reputation, thinks of nothing else; hears and sees nothing unconnected with that subject. So, in reading during loud conversation, if the surrounding persons, as well as their topics, are familiar to us, we read on; but if they are strangers, or talk on an interesting subject, our curiosity is paramount, and we cannot read. The will, however, can force us back again to the book, but cannot keep alive the attention; it wanders away, and is recalled again and again.

We become accustomed to certain sounds, so as not to notice them, not because they affect the ear differently—they affect it always in the same manner and degree, but the mind will not attend to them—it becomes accustomed to neglect them. This is a psychological, not a physiological fact.

M. Jouffroy applies the foregoing to the explanation of the state of sleep. Admitting, says he, that the senses are benumbed in sleep, they are nevertheless not more so when I have been in town a month, than when I first arrived; but, at first, the noises start me out of slumber, at last they do not. In the latter case the senses transmit the impression as completely as at first: why do I not awake then? Because the soul will not rouse the senses, for, knowing by experience what the sounds import, she is indifferent to them, and will not *attend*; if she would attend, she would wake them up—for some are shut as the eyes, and others are benumbed as the ears—she will not awaken them. Sometimes we are sensible of a violent effort to awaken the senses, which refuse, as it were, to be roused; we seem to say it is time to awake. As an example; M. J. gave orders to have a noise made in a room adjoining his bed-chamber, at a certain hour every morning. The two first mornings he awoke, but not afterwards, though the noise was the same. He tells us it was because the soul, aware of the meaning of the noise, would not awake the senses. "I forget, it is true," he adds, "this train of reasoning, but I forget many others, both sleeping and waking."

We remember to have heard President Cooper of South Carolina college relate, that a learned Oxonian was given to an inveterate habit of lying late in the morning. A lady presented him with a superb tea set of Sevres porcelain; and as he was anxious to break off his bad habits, he resolved to place one of his much valued cups and saucers under the alarm of his clock, which, though it fell loudly on the floor every morning at a certain hour, had ceased to rouse him from his slumbers. The next morning he leaped out of bed just in time to save his cup and saucer. Very well, said the bachelor, that will do—a most capital plan! Next morning he was a second too late, and the cup was dashed into a thousand pieces. On the following day he awoke soon enough to save it, but, as the set was broken, it was not worth saving; and so he went on, day after day, till every piece was shivered to atoms. We think M. **Jouffroy** could not have had a better illustration of the abstracted and indifferent state of mind that occurs in sleep.

We cannot protract this article much farther; and must hasten to present our readers with the following summary.

1. The senses only are benumbed in sleep, but the mind (*l'esprit*) remains awake.

2. Some of our senses continue to transmit to the mind the weak impressions they receive.

3. The mind judges these sensations, and by virtue of these judgments awakens the senses or not.

4. The reason why the mind awakens the senses is, that the sensation disturbs it, (*l'inquiete,*) because it is uncommon or painful, or that it warns the mind to rouse them because it is the known sign of the proper time to do so.

5. The soul has power to rouse the senses, and succeeds in so doing by overcoming the numbness (*engourdissement*) which binds them up. This numbness is an obstacle to overcome, which resists more or less in proportion to its degree or amount.

Somnambulic or magnetic sleep, says M. J., is not so different from common sleep as is commonly imagined. If the organs of sense are very much benumbed, (engourdies,) in a person whose mind is deeply pre-occupied with an idea that he is in his sleep to attend to certain external and internal sensations, when he hears the voice of the magnetiser he will recognise it and concentrate his attention on these sounds—he will understand their meaning, and reply to them if they are questions. The voice commands him to *attend* to certain sensations existing in the interior of his body—he obeys, and, under this deeply concentrated *attention,* will perceive the most minute, the slightest sensations affecting the organ in question. If the mind has power to awaken the senses, the somnambulist will wake at the command of the magnetiser, at any preconcerted signal which the mind remembers.

There is very little difference between the state of the soul in sleep, and in reverie or *castle building* (*chateaux en Espagne.*) The reading of romances surrounds us with an ideal world, and the soul is in a condition not very different from that in which it exists while dreaming. In *reverie,* the eyes may remain open and the ears unstopped; wherefore, they transmit many more impressions than in sleep, to which the soul, occupied with its train of thought, does not pay any great *attention;* they serve nevertheless to keep up a certain consciousness of our situation.

"Every thing proves, then, that the mind in sleep is not like the body, in a *special* state; every thing proves that *it* does not sleep."—*Nouvelle Bib. Juin,* 1827.

3. *M. Hufeland's remarks on Sex.*—This gentleman has shown that the numerical ratio of the sexes, 21 to 20, is uniformly found over the whole earth, without distinction of country, climate, &c. Sex depends not on the influence of planets, the generative act, or superior sexual vigour in one or the other party to the act. The difference exists in the preformed Germ; in short, it is a predestined difference.

The union of a middle aged man with a young woman, would, without this predestination, result in the production of male offspring; also, in long wars, where the younger classes of the male population are exhausted by battle and diseases, no change occurs in the ratio of the new born sexes. Persons of an equal age do not produce an equal number of males and females; for in these cases there are sometimes only female, and in others only male products of the sexual union.

The numerical ratio of the sexes is the consequence of a supreme law which operates at all times, in all climates, and invariably.—*Bulletin. Aug.* 1827.

4. *New theory of Vision.*—M. Lehot, a French engineer, has published a memoir on the subject of vision, in which he contends that the retina is not the immediate seat of that sense. In many animals the retina is so constructed that it is impossible it should receive regular or uniform impressions, or in consequence thereof transmit sensations so as to give an exact idea of bodies: in the Eagle and Vulture the retina is folded or plaited, and it is impossible for a plaited membrane to receive regular impressions or transmit them.

In man the surface of the retina is rendered uneven by being penetrated at different points by blood-vessels; which, incapable of receiving impressions of luminous bodies, must prevent the images of such bodies from being continuous or whole. Besides, the explanations heretofore given of the mode by which the eye can change its form so as to adapt itself to different distances, are insufficient; and nothing has hitherto been discovered to contradict the supposition that the *vitreous humour* is the immediate organ of sight.

He thinks that the points of the luminous cones, which represent the several dimensions of the object, make their impressions on the vitreous humour, so that the eye is always adjusted for distances, whether greater or less.

We make no remarks on this theory, except that the vitreous humour not being composed of nerve seems ill adapted to the reception of *impressions.*—*Bulletin, June.*

5. *Functions of the Cerebellum.*—In the Archives Générales for September, 1827, is contained a long paper by M. Bouillaud, intended to show that the cerebellum presides over the acts of *station* and progression, and not over the instinct of *propagation.* We shall present a brief analysis of the paper to our readers; who cannot fail to be interested in all the modern discussions which are shedding so much light on the *terra incognita* of the nervous system.

Saucerotte, in 1769, concluded that the nerves of the neck and back are derived from the cerebellum; and that they are crossed, or have a crossed effect, (effet croisé.) In 1809, Mr. Rolando taught that the cerebellum is the source and origin of all the motions; and thought that the action of the cerebellum was of the same nature with that of a voltaic pile. In 1822, M. Flourens says that in the cerebellum resides the property of *co-ordination*, or ordering the movements, willed by some parts, and excited by other parts. In 1823, MM. Foville and Pinel Grandchamp established from pathological observations that the cerebellum is the focus of sensibility. Mr. Magendie, in his Physiology, 2nd edition, 1825, says, I have often seen and shown that animals deprived of their cerebellum could move very regularly. These experiments controvert the idea proposed by Flourens, viz: that the cerebellum is a regulator or balancer of motions. Gall has for a long time professed his opinion that the cerebellum is the organ of the instinct of propagation; and in a late edition combats *a l'outrance* the doctrines of Rolando, Flourens, &c.; and finally, in the 2nd volume of his work, published in 1826,

M. **Serres**, with numerous valuable facts in his possession, adopts neither of the above opinions conclusively. According to him, the median lobe of the cerebellum is the exciter of the generative organs. The hemispheres are exciters of motion in the limbs, more especially the lower limbs. The cerebellum is the exciter of jumping, (du saut.) The tubercula quadrigemina are exciters of associated voluntary motion, or equilibration, and moreover exciters of the sense of sight, in the three inferior classes of vertebral animals.

M. **Bouillaud** had long been the partisan of **Gall**'s opinion in the premises; an opinion that was not wholly subverted by **Flourens**'s work. He therefore resolved to experiment for himself.

He did not confine himself to the method of *ablation*, or removing, piece by piece, certain portions of the brain, and determining by the consequent deficiency of certain phenomena, their causes and seats. He employed *cauterization;* which prevents hæmorrhage, besides other advantages; and found also, that by artificially irritating the brain, phenomena are produced *necessarily* similar to those which arise out of the natural stimulations of the organ. He touched the posterior median portion of a dog's cerebellum with a hot iron. The animal seemed drunk, had a peculiar astonished look of his eyes, walked in a staggering manner, sometimes going to the right, when he wanted to go left, and vice versa; he also, when he wanted to go forwards, moved backwards. This experiment was performed on the 5th, and the poor animal was *mercifully* drowned on the 8th in the evening. As the dog was completely sensible, able to move his eyes, to chew, to swallow, and to regulate the larynx, it is, says Mr. B., manifest that there must exist different *central moving forces* for the muscular apparatus. The cerebellum presides over the co-ordination of the muscular movements in *station* and *locomotion.*

He next cauterized the cerebellum of a young rabbit. The detail of the experiment is too long for this place. No paralysis was induced. The animal ate and was gay. (*assez gai!*) It must have been a French rabbit to have preserved so much of the national character in these circumstances. It played and did not appear to be sick, but it could not stand—there seemed no co-ordination of motion; while not one locomotive muscle was affected individually, though it could not combine any two of them. He cauterized the quadrigeminal tubercles in this same animal; the eyes were now drawn up, then downwards, and agitated by convulsive motions.

On a 3d rabbit a deep impress of the cautery was made, which softened and disorganized the cerebellum. In this case, motion was abolished as to any co-ordinate action of the muscles. The animal lay on its belly; to which it always returned, when thrown on its back—they pinched its tail to make it walk, it seemed to exhaust itself in *vain* efforts of the will. By a great many other experiments of a similar nature, on rabbits, pigeons, hens, cocks, &c. he comes to the following conclusions, viz: "The only constant or pathognomonic phenomena resulting from these organic læsions, are disorders or affections of the functions of locomotion, or equilibration. These phenomena are the more remarkable as they are unaccompanied with paralysis, or convulsions, properly so called. The animals could flex and extend their limbs in any direction, and this too with an uncommon celerity and force; whence it follows, that we must admit in the cerebellum a force which presides over the associated movements that compose the acts of station and locomotion, a force which is essentially distinct from that which governs the simple movements of the trunk of the body and the members, while there exists between these forces the most intimate connexion.

M. Bouillaud agrees, therefore, with Flourens, that here resides the co-ordinative force of walking, running, flying, standing, &c.; but Mr. F. missed the truth when he thought that all the voluntary muscular motions were co-ordered here, for deglutition and some movements of the trunk were not affected.

Simple irritation of the cerebellum may excite all the phenomena of anomalous muscular movements above detailed, and which resemble epilepsy, and may be recovered from; but if you destroy the organ, the balancing or equilibrative power is lost forever.

The sensations and intellectual faculties are wholly unaffected by these læsions of the cerebellum.

In no case does a simple læsion of the cerebellum produce any pain.

M. B., though he paid strict attention to the subject, never, in any case, found an erection, or ejaculatio seminis to be consequent on his experiments upon the cerebellum. Hence he says that this organ does not appear to be the seat of the propagative instinct.

The cerebellum is not the focus or centre of sensibility. Nothing, says he, is better demonstrated in physiology than this point.

As the organ under consideration governs the co-ordinate or equilibrative movements, M. B. suggests, that a well organized cerebellum is a sine qua non to a good dancer. This puts us in mind of the late attempt to ridicule the phrenologists, by establishing a new *organo-podic, or podological system*, which would measure the human understanding by the foot, instead of by the organological lumps; and in fact, from M. Bouillaud's experiments, it is nearly manifest that the cerebellar developments can be better studied at the ballet, than any where else. At any rate, organology loses nothing by M. Bouillaud.

These equilibrative functions, like those of the understanding, are subject to the laws of education—the more they are cultivated the better are they executed. The author makes a singular observation in this place. He says, that these functions imply, at least in certain cases, a memory of motions, (*une Mémoire des Mouvemens,*) as in very complicated dances, military evolutions, &c. which require a close study and faithful memory of each particular step or manœuvre. We must therefore admit, either that these phenomena are not part of the intellectual acts, which will exclude one variety of *memory* from the rank of intellectual faculties; or that the cerebrum proper is not the seat of instincts, volitions, and intellectual faculties solely.

6. *Connexion of the human ovum to the Mother.*—Professor C. G. Carus has published, in Siebold's *Journal für Geburtshulfe*, a memoir, in which he treats of the connexion of the ovum to the mother. In 1825, he received a complete ovum, expelled by abortion at the sixth week. The embryo was five lines in length; it had no red blood, nor was there as yet any placenta formed. As the specimen was in a perfect state, the author submitted the flocci of the chorion to microscopic observations. The flocci existed on all the surface, but were most numerous on the inferior and posterior surfaces; at least such is the remark of the writer in the Bulletin, though we cannot pretend to know what mode was adopted for discovering the different surfaces; posterior or anterior, would, necessarily, be much alike. Under the microscope, the fibrillæ appeared diaphanous, branched, and, at their loose extremities, swelled out into bullæ, like those of the intestinal canal. These free extremities adhered so firmly to the membrana caduca, that several of them were broken off in attempting to detach them.

These could not be blood-vessels destined to form the placenta; for the blood-vessels never have free extremities, but are always found reflected back in the state of a noose or loop.

Heretofore no distinction has been made between the different flocci of the chorion which were supposed to give origin to the placenta.

The placenta, which is the real branchia or breathing organ of the fœtus, develops itself between the flocci. The radicles of the umbilical arteries penetrate between the flocci, and then curve back again in the manner of a loop, to give origin to the umbilical veins. These loops or curves really constitute the placenta. The fibrillæ or flocci, which are swelled out into the shape of ampullulæ, like those of the intestinal villi, and constituting like them, suckers or absorbing mouths, are wholly different from the blood-vessels, for they even exist where no regular blood-vessel circulation exists; as in moles, which grow in the uterus, by means of their absorbing power. The probability therefore, is, that they take up from the maternal surface the elements of fœtal nutrition.

The sanguineous vessels of the placenta, on the other hand, exercise a merely branchial or respiratory function. The fœtus may be supposed to be nourished without assigning to the blood-vessels a direct absorbing power. No absorbing orifices have ever been demonstrated in them, and it is more probable that they serve the purpose of respiration exclusively. —*Bulletin des Sci. Med. July.*

III. PATHOLOGY.

7. *Gangrenous Abscess of the Lungs.*—Dr. W. F. **Chambers**, physician to St. George's Hospital, has found, among six hundred pulmonary patients, admitted in the course of fifteen years, and nearly all examined, that there only occurred three cases of what he considers *true phlegmonous abscess.* From these he excludes those cases of circumscribed abscess discovered by dissection, in persons who have died of severe injury of the head, or any other great disturbance of the nervous system; which sometimes occur, not only in the lungs, but in the liver, spleen, and almost all the glandular and cellular parts of the body. These he considers analogous to the collections of albuminous matter in the serous cavities, which are frequently found after death under the circumstances just mentioned. During the same period, many patients have been discharged from the hospital, more or less relieved of pectoral affections; and, of these, three or four instances of pulmonary apostema have perfectly recovered.

Dr. **Chambers** relates two cases, one of which enabled him, by dissection, to form an analogous judgment of the other, which recovered. They seem to us to be the *circumscribed* form of *gangrene of the lungs,* described by M. **Laennec**, whose merits are now canonised by death. They are far from corresponding to our idea of simple phlegmon.

Dr. C. proceeds to enumerate the symptoms which characterize the disease he is describing. The sputa are of a brownish or greenish yellow colour, with an intensely fœtid smell, resembling that of rotten eggs; differing strongly, in this respect, from those of tubercular phthisis. The regular hectic fever is also "absent:" one case presented slight shiverings, flushings, and perspirations, occurring irregularly; and the other no hectic sweating at all. The clear complexion and bright colour of hectic are wanting in the countenance, and are replaced by a leaden hue; and the retrospective history of the case is that of simple inflammation. Vide p. 95 of this Vol.

The case which recovered was treated with cupping, blisters, saline draughts, gum arabic, digitalis, ipecacuanha in minute doses, lactucarium at night, and colocynth pills; and, on his recovery, with mistura ferri, mistura camphoræ, meat, and porter—the previous diet having consisted principally of milk.

8. *The Liver.*—Dr. N. R. Smith, (*Phil. Month. Journ. of Med. and Surg. Oct.*) has written an essay on the pathology of the digestive organs; in which he labours to show that sufficient importance has not generally been attached to the liver. He conceives that matters directly absorbed from the alimentary cavities, and passing to the liver through the portal circulation, as is shown by so many experiments, some of which Dr. S. has performed himself, afford a more direct explanation of the concurrence of hepatic derangement, with that of the stomach and intestines, than the direct doctrine of sympathy; and seems to think this the preferable way of explaining the most frequent cases of such connexion. The liver is thus often the first part diseased; the stimulus of unwholesome foreign matters in the cavity of its veins, being more acutely felt than on the mucous surface of the bowels. To the liver not only belongs the task of secreting bile, but the additional one of purifying [and intimately mixing] the heterogeneous blood, which comes from the stomach and intestines, loaded with saline and other various objects of absorption.

We think there is a great deal of ground for the pathological principle here inferred; but we question whether the importance of the liver is under-estimated, for example, in the warmer latitudes, or in the pupils of Dr. James Johnson, and the admirers, among whom we rank ourselves, of his treatise on Diseases of Tropical Climates. As to the theory of depuration, Dr. S. coincides with various physiologists, from Glisson and Bartholinus down, in this very probable opinion.

9. *Dr. Horner's observations on the colour of mucous membranes.* (American Journal of the Medical Sciences, No. 1.)—Our readers will recollect the collection of facts by M. Billard; vol. i. p. 441, of this Journal; also, those of Messrs. Trousseau and Rigot, vol. iii. p. 383; and those of Dr. Billard again, vol. iv. p. 396. It gives us sincere pleasure to be now able to add to this list an account of a series of American observations.

In the spring of 1827, Dr. Horner, the author of the memoir before us, commenced, in association with our respected, but absent companion in the conduct of this Journal, Dr. La Roche, a set of experiments and observations on the natural and morbid colours of mucous membranes; with a reference to an increased accuracy in future accounts of dissections. It was designed, first, to prepare materials for an accurate idea of the natural and healthy appearances of the alimentary canal, both during rest and the process of *digestion;* and subsequently to compare these with a series of diseased phenomena. The first inquiries were to be directed to brute animals; with a view to obtaining greater facility and certainty in investigating the viscera of human subjects, whenever the rare opportunity should be presented of an examination of these, underanged by irritation. Dr. La Roche's departure for Europe cut short his participation in the experiments; and Dr. Horner has continued them, and published his narrative in the above Journal.

Experiments 1 and 2.—Two sheep were slaughtered, after a fast of twenty-four hours, by cutting the throat, and subsequently dividing the spinal marrow—Mucous membrane of stomach and intestines, of *a pearl colour, slightly yellow, approaching to a light tint of bright brown; exhibiting no blood vessels, even of the largest size, except very faintly, and no red patches.*

Experiment 3.—A rabbit, pithed, three hours after feeding on green cabbage; examination made immediately after the visible capillary circulation had ceased—Mucous coat of *left half of stomach, in contact with food, of a uniform light lake, approaching to vermilion, without blotches, or shades of difference.* Right half, *containing but little food*, of the *same dull pearl colour* as that of the sheep. Small intestines, *much lighter* than stomach. (The description of these last is not perfectly clear.)

Experiment 4.—Rabbit. Abdomen opened during life. Intestines became highly injected with blood, on the outer surface, with great rapidity. Irritated the mucous coat of the colon, by *rubbing*—became *scarlet*, and an anastomosis of red vessels became visible in the outer surface, resembling a honey comb. Stomach *contained green food;* internal coat, *deep crimson lake*—on killing the animal and cutting the parts out, cardiac half became *light lake*, and pyloric half, *yellow pearl;* colour uniform, and not in patches.

Experiment 5.—Rabbit; pithed—Stomach *contained food.* Left half *lake, approaching vermilion;* right half, *dull pearl;* colours uniform, and not in patches.

Coloured figures are given for these; which, in our copy, and to our eyes, most nearly resemble, the first, the *Dutch orange*, the latter, the *buff orange*, of Mr. Syme; both diluted, the latter very much so.

Here the observations on brute animals conclude; and Dr. H. proceeds with those of human subjects.

Case 1.—There is a woman now in the Philadelphia Alms House, who, some time since, lost, by gangrene, the sphincter ani, adjoining integuments, and about six inches of the rectum. The perinæum has cicatrized; but is kept in a continual state of excoriation by the fæces, whose escape is no longer restrained and regulated by the sphincter. A distinct view is afforded of the inside of the colon, near the sigmoid flexure; the mucous coat of which is of the colour of the *vagina*, or of *newly blistered skin.*

Dr. H. considers this observation sufficient to authorize the inference, that "the nostril or the vagina, in a robust, healthy female, will probably be found to represent correctly the shade of colour, which, in life, belongs naturally to the gastro-intestinal mucous coat." We do not feel this to be conclusive: as the patient's colon, far from being "healthy," must be presumed to be in a state of irritation, of considerable severity, both from its unnatural exposure to the air, and from the influence exerted upon it by the external excoriation. The living *external* surface of the intestines we have frequently seen in animals, and, in several instances, in the human subject; and the dark, bluish gray, which it always exhibited in these cases, as it usually does in animals recently slaughtered, is hardly compatible with such a lively blood-red in the interior.

Dr. H. next details the appearances found in the interesting case of Mr. W. J., whose sudden death was preceded by difficulty of breathing, and violent pain in the loins, other symptoms not having been recorded. The *stomach* was found to contain two ounces of mucus, and to have the *sides and summits of the rugæ*, of a *very light warm sienna or bright brown*, while, in the *depressions between* the rugæ, the mucous membrane was of a *dull pearl colour.*

The jejunum contained "feculent matter, consisting of mucus, yellow bile, and cream, reduced to a homogeneous and digested mass." Its lacteals were filled with chyle. The mucous coat was of a *deeper sienna*, and of a more *uniform tinge.* Colon, containing fæces—its mucous membrane of a *dull pearl colour.*

Dr. H. thinks that, in this case, there was not the least probability of a diseased digestive apparatus. The cause of death is, however, by no means obvious from the narrative. In the parts least under the excitement of digestion, we see the same dull pearl colour as in the observations on animals.

The writer here falls into a mode of expression, which we have occasionally met with, and which appears to us liable to create a confusion of ideas. He says, that he "never found the abdominal viscera in a state which seemed indicative of more perfect health," and this phrase is very likely to be repeated with the authority of his name: whereas, it is a plain *petitio principii*, the *natural* appearance being precisely what is to be ascertained, and not admitting, in the present mode of examination, of any authority whatever.

Dr. Horner defines congestion to be "an accumulation of red blood in any part or organ of the body, without irritation or mechanical violence. As an example of this, he gives a case of suffocation, from an abscess over the larynx; in which, however, the cause of death appears to have been the presence of two tumours in the edges of the glottis, composed of membrane filled with serum and lymph, and producing suffocation by closing the aperture.

The minutest branches of the vena portarum were found so fully injected, as to give a light purple colour to the whole of the small intestines, externally; interspersed with mahogany coloured patches of two inches diameter.—The internal coat of the stomach *light pink*, but with the summits of the rugæ resembling red streaks, from a number of minute red dots.—No red patches, nor ecchymoses—Small intestines—internal coat covered with similar small dots—Colon contained a few of them, and was contracted.—Internal coat of *œsophagus*—white pearl colour.

In another experiment, for the elucidation of "red inflammation," Dr. Horner found the mucous membrane of the stomach, in a rabbit, of a scarlet-lake colour, from the excitement of digestion; on applying the stopper of a bottle, wet with a solution of corrosive sublimate, greater redness was induced in the space thus irritated; which was followed, after death, by the appearance of *red blotches;* thus affording an example of the production of these blotches by a direct and visible *irritation*.

The remainder of the paper details ten very interesting cases of gastric irritation in the human subject, from the practice of Dr. Horner, and of his friends, Drs. Hodge, Ashmead, Griffith, James, Otto, and La Roche. We should be glad, had we space, to analyse them: they are very similar to numerous examples of the same phenomena described in Europe. They are, most of them, cases of *fever*, in which the sagacity and physiologo-anatomical skill of these gentlemen, had detected those marks of local irritation which are so frequently overlooked by the nosologists.

We can congratulate our readers upon the successive, but rapid accumulation of a mass of American evidence, on these important points; most of which has been disseminated through the medium of periodical Journals. (Vide, in this Journal, Mitchell and Bell, on the Varioloid, vol. 2. pp. 27 and 258, with coloured figures; Dr. Monges on Yellow Fever, p. 53; Dr. Waring, v. 3. p. 1; Dr. Parrish, p. 51; Dr. Morris, p. 61; Dr. Ticknor, p. 213, and vol. 4. p. 1. Among our cotemporaries, besides the present number, we have derived most pleasure from the excellent dissections of Dr. Lawrance, in the Philadelphia Journal.)

10. *New Test for Soundness of the Lungs.*—Dr. William Lyons, Staff-Surgeon, Edinburgh, (Ed. Med. and Surg. Journal, October,) recommends the following process as a means of ascertaining the soundness of the lungs; and has found it to fulfil his most sanguine expectations, in the examination of army recruits; for which purpose he conceives that it renders the *stethoscope* unnecessary. He directs the individual to be tested, to make a full inspiration; and, during the expiration, to count, as far as he can, slowly

and audibly, without taking another inspiration. The number of seconds during which he can do this, is noted by a watch with a second-hand; and is found to "increase in proportion to the integrity of the lungs."

After the most perfect inspiration, according to Dr. LYONS, the time of counting does not exceed thirty-five seconds; and commonly, in apparently sound lungs, varies from twenty-five to thirty seconds. In confirmed phthisis it never exceeds eight, and frequently falls under six or seven; in pleurisy and pneumonia, it is from six or four to nine seconds; in hepatization, from nine to fourteen; in a strong and healthy looking young man, discovered to have dyspnœa, with a slight tinge of the lip and ear, and in another, subject to attacks of asthma, but apparently free from it at the time, and healthy looking, it did not exceed ten.

We have subjected three persons to this test, in apparent health of lungs; though two of them were affected with chronic inflammation of the glottis. A man, seventy-nine years of age, counted for twenty-seven seconds; another, of thirty years, forty seconds; a corpulent female, of sixty-five years, fifteen seconds, though never ascertained to be affected with disease in the lungs.

11. *Pneumophthisis Cyanotica. Phthisis pulmonalis with cyanosis*, or the *blue disease*. (Journal des Progrès, No. 4.)—A congeries of pulmonary tubercles has long been noticed, as a cause preventing the due closure of the *foramen ovale*, and producing that distressing malady characterized by the presence of a large proportion of venous blood in the arterial cavities. The writer of this note once witnessed a very striking case of the kind; in which a prodigious number of tubercles were found, in an advanced stage, in the lungs of a "blue child," nine months old.

Professor SCHÖNLEIN, of Wurtzburgh, has described a malady of the same nature, at a more advanced age; and one of his pupils, Dr. J. URBAN DE BERNSTADT, furnishes us with a neat memoir on the subject, as above; from which we are now quoting.

This affection, according to our author, usually develops itself "during puberty;" and is distinguished by its duration, which rarely exceeds *three months*, by the intensity exhibited in the *venous symptoms*, by pulsations of the heart and arteries, "prompt, lively, and undulating," not always occurring at isochronous intervals; by the consumptive physiognomy and habitus; by paleness of the face, and blueness of the lips; by the narrowing and flattening of the chest; by the slenderness and length of the limbs, especially of the arms and fingers, which are swelled at the extremity, resembling *drum-sticks!* At a later period, occur catarrhal symptoms, with cough, stitches in the sides, oppressed breathing, hæmoptysis, and, afterwards, purulent expectoration. In the third or fourth stage of the complaint occurs hectic fever. It differs from ulcerous phthisis, by the rapidity of its career, the absence of any species of colliquation, the dryness of the skin, the scanty expectoration, constipation, and the premature occurrence of symptoms of cerebral disease.

Non-obliteration of the foramen ovale occurs more frequently in females than in males. It has been discovered in the children of those affected with the same disease, or with aneurisms, or ossifications in the heart, &c. This state of things does not, necessarily, produce cyanosis; but is liable to give rise to it, when the patient's system is deranged by various causes: such are, an accelerated circulation, pneumonia, catarrh, pregnancy, child-birth, and violent muscular exertions.

On dissection, the *brain* is commonly found gorged with venous blood, and its ventricles distended with serosity; and one or both of the phrenic nerves, swelled, hardened, tendinous, and, as it were, suffering under *atrophy*. The heart is rounder than natural, but without any difference in the walls of its ventricles. The foramen ovale is open; and its valves are of a reticulated structure. The blood of the heart is extremely liquid: the lungs are partly ulcerated; and the liver larger than natural, commonly loaded with venous blood, soft and doughy, seeming to bear nearly the same relation to the lungs that it does in the fœtus.

In the *treatment*, we are told, that it is out of the power of human agency to effect a *cure;* as the closure of the foramen ovale is a process which cannot be effected by any medicaments in our possession. On the other hand, however, nature possesses the power of producing this effect before the completion of puberty; and the blueness will then disappear. In order to permit this desirable change to take place, our whole care is to enable the patient, if possible, to survive those years of his youth in which the danger exists, without extinguishing the vital lamp by any of the causes which are likely to excite the disease. In this view, three indications present themselves: 1. To limit the general demand and necessity for arterial blood throughout the system; 2. to supply, in part, the function of the lungs by the subsidiary action of other organs of the body; and 3. To avoid the action of injurious causes on the lungs generally.

The first of these is to be attempted, by enjoining the most perfect repose possible; by forbidding the use of aliments containing a large amount of hydrogen, which are supposed to require a more active oxidating process in the lungs; and by directing vegetable food, watery drinks, and other similar means. The organs which are capable of assisting the lungs, are the kidneys, the liver, and the skin. On the first of these we are to act by digitalis; which possesses the additional property of diminishing the capacity of the vascular system; on the liver, by calomel, and the antiphlogistic salts; and on the skin by warm baths, acidulated with hydrochloric (muriatic) acid. The means of fulfilling the third indication are familiar: they consist in avoiding exposure to cold, &c.

Dr. U. de B. adds an exemplification of the disease, in the narrative of a case; which, though highly interesting, would not, as we apprehend, be advantageously abridged here. The cerebral symptoms existed for a short period, and consisted chiefly in a tranquil delirium, with convulsions of the extremities.

12. *On gangrene of the mouths of Children.* In a letter from Joseph Clarke, M. D., of Dublin, to one of the Editors of this Journal.

The following favour from a venerable physician of Dublin, of the high respect attached to whose character we are well aware, was, immediately on its reception, laid before the Committee of the Children's Asylum of this city. It was subsequently mislaid; and we embrace the first opportunity of offering it to our readers.

Dublin, Nov. 16, 1826.

Dear Sir,

In looking over the last number of the Medico-Chirurgical Review, published in London, in October, my attention has been attracted to an article at page 586, entitled "Cancrum oris Infantum."*

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* The article here alluded to, is an abridgment of an essay on the gangrenous ulcer of the mouths of children, inserted in a former number of this Journal. The analyst in the Review has, however, chosen to prefix the above title; liable, as the reader may see, to the accusation of being incorrect, and ungrammatical, or totally barbarous. Vide vol. 2, of this work, pp. 17 and 18, foot note.

This article brought to my recollection some conversations I had, a few years ago, with my late son, Dr. James Clarke, then one of the Physicians to the House of Industry in this city. My son described to me a gangrenous affection of the mouth in a crowded ward of children, which baffled all the efforts of the members of the medical profession attached to that great establishment; and begged to know what I would try in similar circumstances. I suggested borax in various forms, and brisk purgation.

My son found the whole of this establishment *badly ventilated*, and *overcrowded* with inmates. In proportion as ventilation was improved, and numbers diminished in each room, my son had the satisfaction to find the gangrenous disease of the mouth to *disappear*, and the general health of the young creatures to amend.

For great improvements effected in a noble charitable asylum in this city, I refer you to an essay of mine in the 3d volume of the Transactions of the Royal Irish Academy.

I mention these suggestions with diffidence; but not without a hope that some public benefit may arise from requesting your attention to them. Persuaded that you will excuse this intrusion, I remain, &c.

JOSEPH CLARKE, M. D.
Rutland Square.

To B. H. Coates, M. D.

13. *The same.*—Dr. S. Jackson, of Northumberland, writes us as follows, respecting the disease described in a former number of this Journal, as compared with that of which he has published a description, under the name of gangrænopsis.

"The present summer, I had three children most alarmingly salivated, with a sudden gangrene on the inside of the cheeks; I blistered, and used the solution of ℥ss. of sulphate of copper to the ounce of water, with such astonishing success, that the whole disease went off in a few days, leaving healthy ulcers. These cases afforded a convincing proof that the gangrænopsis is a very different thing. They resembled it in nothing; not even in the appearance of the gangrene."

14. *An Account of a Gelatinous Cyst occupying the left side of the Tuber Annulare.*—This case is recorded in the *Bulletin de la Société Anatomique*, and inserted in the *Nouvelle Bibliothèque Médicale*, for July. The subject was a female forty years of age, who was received into the hospital of St. Louis, on the 16th of December, 1826. In the year 1815, she complained of pain in the left side of her face, shortly after having suffered much from fright. Two years afterwards she married; and no long time elapsed subsequent to this event, until her menses left her, and the pains of her face, before tolerable, and recurring at intervals, now became so intense, as to forbid her attempting any thing which required the least attention. The slightest mental emotion produced exacerbations. A belief entertained by her medical advisers, that the disease was neuralgia, occasioned by carious teeth, induced her to go to Paris, and have them extracted by M. Desirabode. Her pains disappeared, but only for a few hours; after which they returned with renewed violence. From this time, she experienced severe lancinating pain, which, beginning at the left side, extended all over the face. Sometimes she would rise suddenly and seem to fly some danger, seizing hold of any object near her. She was giddy when walking, and felt as if intoxicated. Creeping and convulsions of the muscles of the face, complete the picture of her situation during the first period of her disease. Subsequently to this, the pains of the face diminished, and were replaced by a feeling of cold. The deep seated pains, on the contrary, retained all their intensity.

The following were the symptoms evinced by the senses and muscular system, on the admission of the patient into the hospital. 1. The left lower eyelid was depressed towards its external angle; but vision was complete, and colours were distinguishable until death. 2. The left side of the face was completely paralytic, and the commissure of the lips was powerfully drawn towards the right side. The left nostril was motionless, and the patient could only take snuff on the other side. The face was alternately pale, and bathed in sweat, or highly coloured. 3. The sense of smell was entire; and B——, who never took snuff prior to her indisposition, was afterwards always asking for it; and experienced pleasure in making use of it. 4. It was difficult to ascertain to what extent the sense of hearing was altered. 5. From the invasion of the disease, the sense of taste had gradually been enfeebled; so that, a few months before her death, she could not tell one aliment from another, except sugar, the relish for which she retained to the last. Deglutition was performed with extreme difficulty; the food, on arriving at the pharynx, was in greater part rejected. The voice was still formed; but speech was almost gone. The patient could only give the monosyllabic reply of negation or assent. The muscular action of the right side of the body was entire; this side of the trunk was curved, like the arc of a circle, especially when the patient was in bed. The left thoracic and abdominal members, had lost much of their feeling and power of motion: but they were not in a state of complete paralysis. Occasionally, the heart seemed to cease beating; and hence the paleness of the face, loss of thought, and, in a measure, absence of all life. The respiration, for a time, would become impeded and laborious; and it seemed as if the necessary strength was wanting for the performance of the function.

The patient, during several months' residence in the hospital of St. Louis, was not subjected to any other treatment than rest and demulcents. She finally sank under a latent pneumonia.

Dissection, performed twenty-four hours after death, exhibited the following appearances. The exterior habit of the body, presented general emaciation. The left side of the face, and the left arm and leg, appeared somewhat smaller than the corresponding parts on the right side. The viscera of the abdomen were sound. The left lung was healthy, and without adhesion; the right exhibited pneumonia in the first degree. False albuminous membranes were seen in some parts of its surface, and the remainder of it was adherent to the ribs, by false membranes, organized; the mark of an old pleurisy.

The cranium being laid open, there were seen traces of chronic arachnitis, characterized by adhesions of the cerebral to the parietal arachnoid, especially on a level with the anterior clinoid processes. The brain was carefully laid bare; the anterior lobes raised; and the nerves cautiously cut, at the moment of their entrance into the foramina at the base of the cranium. After having cut the tentorium cerebelli carefully on each side, there was perceived a tumour of a yellowish colour, smooth externally, of a gelatinous consistence, of the size of an egg, knotted, and presenting deep fissures, united by vascular filaments. This tumour seemed to have been developed between the arachnoid and pia mater. Resting on the basilar surface, before the auditory foramen and the anterior condyloid foramen, it sent considerable prolongations between the summit of the pars petrosum, and the anterior clinoid process: this last prolongation occupied the middle cerebral fossa, compressed the gangliform enlargement of the trifacial or fifth nerve, and seemed in a manner blended with a great number of filaments of this ganglion, which was itself atrophied. The external motor nerve of the eye, the external carotid artery, and the ophthalmic branch, were compressed by the internal border of the prolongation of this tumour. The common motor nerve, and the pathetic and ophthalmic nerves, were united by a dense cellular tissue, which seemed to have been the seat of inflammation. This tumour was separated from the bones of the cranium, by the arachnoid and dura mater. It was covered by the inferior and posterior position of the middle lobe, and a part of the extremity of the posterior lobe, by the left peduncle of the cerebrum, and the peduncle of the cerebellum of the same side. All these parts were very visibly diminished in size, and atrophied; and exhibited a deep pit corresponding with the surface of the tumour. The tuber annulare, which seemed to be the special seat and point of departure of the tumour, presented, on the right side, a projection of some lines extent; so that the basilar artery was thrown to the right. All the left border was depressed, and thrown back out of its situation. The left lobe of the cerebellum was directed backwards by the tumour; so that the superficial fibres placed transversely, which aid in the formation of the cerebellum, represented a kind of curve, the concavity of which was thrown backwards. Necessarily, then, the left lobe must, in this direction, have projected beyond the right.

The appearance of the nerves was not less interesting. At the inferior part of the tumour, was the trifacial or fifth nerve, which passed directly beneath it, and seemed, as it were, confounded with a kind of false membranes; its filaments were short; it was white and flat. This nerve, in its course into the cranium, was accompanied by the tumour, as far as the middle cerebral fossa, and appeared as if united with it. Its substance was penetrated by many vessels. The left external motor nerve of the eye, which also accompanied the inferior part of the tumour, was evidently augmented in size, and enlarged in the middle of the tumour; but it could be readily detached from the cyst. The facial, acoustic, and hypoglossal nerves, and those which pass out by the left foramen lacerum, were compressed. The optic and olfactory nerves, which had not at all suffered from pressure, were entire. The tubercula quadrigemina were small.

The cerebrum did not exhibit any change in its structure. The medulla was sound. On the spinal portion of the arachnoid, some laminæ of false membranes were found, which seemed to be in a cartilaginous state.

The tumour, when cut into slices, seemed to be composed of numerous cells, which formed as many cysts. These cells contained a yellowish gelatinous substance, covered with a transparent membrane.

The reporters of this case, Drs. JOBERT and CAZENAVE, point out the inferences which may be drawn illustrative of the functions of the different nerves, compressed or affected by the tumour. The pains of the face, so acute at first, are referable to a neuralgia of the fifth pair, as their subsidence may be explained by subsequent pressure on the nerve exerted by the tumour. The almost entire loss of taste is accounted for in the altered condition of the lingual branch of the fifth pair. But the integrity of the senses of vision and smell would militate against the experiments of MAGENDIE; since this state of things existed, notwithstanding the fifth pair was so much interested. The compression of the left facial nerve explains the immobility of the nostril of that side, and why the commissure of the lips was drawn to the right. Ought the difficulty of deglutition and respiration, and the morbid state of the circulation, to be attributed to the compression of the glosso-pharyngeal, pneumo-gastric, and spinal nerves? The slow and gradual abolition of speech, is readily explained by the pressure of the tumour on the great hypoglossal nerves. That the intellectual faculties should be entire, might naturally have been expected, considering the integrity of the cerebrum. The evidence of this integrity and sanity of intellect could only be expressed by gesture, as speech was wanting. But it was fully proved on the occasion of one of the patient's relations visiting her;

she blushed, and changed colour, and the face here expressed what the tongue could not. We may, perhaps, suppose the acute pains of the head to have depended on the irritation and turning back of the pons varolii, or tuber annulare.

The incomplete hemiplegia of the same side with that compressed, is explained in part, by the observations of Gall and Blandin; from which it would seem, that whenever the effusion or alteration existed in the extreme end of the posterior lobe formed by the olivary bodies, the irritation was transmitted directly to the same side of the body, because the olivary bodies do not, in their course, interlace like the corpora pyramidalia. But in the case under notice, the explanation will not hold, since the pyramidal bodies were as much compressed as the olivary ones.

IV. PRACTICE OF MEDICINE, THERAPEUTICS, AND MATERIA MEDICA.

15. *Compression by a roller in Acute Rheumatism.*—The June number of the *Archives Générales de Médécine* contains a paper by Dr. L. J. Varlez, of Brussels, in which he details the good effects of compression by means of rollers in cases of articular inflammation, known under the names of acute articular rheumatism, fibrous rheumatism, arthritis, *arthritis rheumatica, &c.* He mentions his having been induced to try this means, in consequence of the fortunate results attending a similar process in phlegmonous erysipelas in the hands of Dr. Velpeau. General and local bleeding had been practised by Dr. Varlez without relief ensuing: nor was the application of the bandage over the affected joint and limb at first followed with an abatement of the pain; but, after the lapse of two or three hours, and the use of an emollient wash, allowed to transude through the roller to the part, the patient obtained ease, and gradually an entire relief from the disease.

16. *Tincture of the Leaves of the Datura Stramonium in Neuralgic Affections.*—In the July number of the above Journal, we meet with histories of four cases of neuralgia, two maxillary, one frontal, and one plantar, cured by frictions of the tincture of the leaves of the datura stramonium, under the direction, and by the advice of Dr. de Kirckhoff. We have already made our readers acquainted with the happy results of the extract of the leaves of this plant, in this gentleman's hands, in the relief of chronic rheumatism.

17. *Bark of the Root of the Pomegranate Tree in Tænia.*—A case is recorded, in the *Archives*, of the cure of tænia, as follows. The patient, a female, thirty-two years of age, who had suffered for eight years from the presence of tape worm, was directed by Dr. Etienne Moulin to take a decoction of the fresh bark of the root of the pomegranate, prepared by boiling down three ounces of the bark in three pints of water, until it was reduced to three glass-fuls—this to be divided into three doses, and to be taken in the morning, cold, at intervals of half an hour. She was, besides, enjoined to take, on the evening prior to the use of the decoction, two ounces of fresh castor oil, and two hours after the last glass of the decoction in the morning, two more ounces of castor oil. During the night, after the first dose of the oil, she had fifteen or sixteen stools, but *not a particle of the tænia was discharged.* In the morning she took, at half-past five, the first glass of the decoction, which she vomited up at six. Nothing discouraged, she swallowed the second dose; which was followed in a quarter of an hour by colic and three stools.

At half-past six, the patient took the third glass, and, in half an hour afterwards, she discharged by stool a long worm: it lived for ten minutes, and moved about with much vivacity. After the lapse of two hours, the other two ounces of castor oil were taken, and produced fifteen stools, in which some portions of the tænia were found. The worm is the *tænia solium*. The patient soon recovered her former health and natural looks and expression. The Editors of the Archives consider the quantity of the bark prescribed as too great. An ounce and a half to two ounces usually suffice.

18. *Tannin in Menorrhagia.*—Dr. P. **Porta**, after detailing his success in arresting menorrhagia by the administration of tannin, in three-grain pills, repeated every three hours, draws the following conclusions.

1. This medicine acts in a special manner on the uterus, whenever this organ is the seat of an irritation, which gives rise to an active or hypersthenic menorrhagia, and also when this discharge is the consequence of chronic metritis.

2. In menorrhagia, the effect of acute metritis, the inflammation must be first combatted by copious and repeated bleedings, and then recourse is to be had to the tannin.

3. The action of this medicine is of no avail against uterine hæmorrhages resulting from an organic alteration of the uterus.

4. This agent ought to be preferred to all others in the treatment of menorrhagia, not only on account of the promptitude with which it arrests all the unpleasant symptoms, but because its efficacy is displayed in so small a dose, that the stomach supports it very readily, even though this viscus be irritated or rendered more irritable by the exhaustion of the patient.—*Archiv. Gen. from the Annali Universali de Medicina, April*, 1827.

19. *Pretended Sulphate of Jalapine.*—In the session of the French Academy of Medicine on the 14th July, 1827, M. **Pelletier** announced to the section of pharmacy, that the substance sent to the Academy as a sulphate of jalapine by Mr. **Hume**, an English chemist, was, in fact, a compound made up of sulphate of lime and sulphate of ammonia. If it really purge, as was alleged by the preparer of it, in the dose of a grain, of which, by the way, we may entertain strong doubts, the effect must, as M. **Pelletier** thinks, be owing to a strong prepossession, a circumstance observable of other inert substances.

20. *Filings of Silver in Intermittent Fever.*—Among the many infallible remedies for the cure of intermittent fever, silver filings are perhaps the latest. According to M. C. E. **Mayer**, a goldsmith of Buckebourg administers them with success in doses of fifteen grains, a little before the expected return of the paroxysm. If the first dose fail, the second, we are told, is invariably successful. In no disease is there such perpetual aliment furnished to quackery as intermittent fever. Even our regular methodical gentlemen of the faculty will, if at all baffled in the use of the bark, be found hunting after this or that remedy, in place of preparing the patient's stomach and blood-vessel system for the cinchona and its various preparations. We too often forget that the remedial virtues of every drug are relative, and that the same medicine which is little better than poisonous to-day, will often, after the lapse of twenty-four or forty-eight hours, act like a charm for the relief of pain and cure of disease. The triteness of this remark renders it the more inexcusable in a medical man to be ignorant of it. We repeat it here, because we do not think, if he do his duty, that he will find it necessary to be scratching, or tickling the digestive surface of the stomach with silver or steel, or any other kind of filings, or asperities.

21. *Cure of Amenorrhœa and Fluor Albus.*—In the *Revue Médicale*, for July, are two papers on this subject. M. Th. Guibert, author of the first, after adverting to the means of restoring the menstrual flux in females of a sanguine temperament and plethoric habit, indicates the necessity of adopting remedies of a different nature in nervous and delicate subjects, and in a lymphatic temperament. He prefers, in the latter condition of things, the use of turpentine, as follows. ℞. Terebinth. venet. ʒij., sapon. hispan. ʒiij, pulv. glycyrrhiz. q. s. m. ut ft. massa. in pil. cx. dividend. Of these, the patient is to take ten pills daily, viz. five in the morning, and five in the evening. If a more active combination be required, he prescribes saffron and rue, in conjunction with the turpentine. ℞. Terebinth. venet. ʒij. Pulv. fol. croci. sativ. et rutæ. graveol. *āā*. ʒi. m. ft. massa in pil. lxii. divid.

Dr. Moulin is the author of the second paper. Its title, "Of the Diagnosis and Treatment of Amenorrhœa and Fluor Albus—Success in bleeding in these Diseases," at once indicates the remedy on which he places his main reliance. He premises some very judicious remarks on the necessity of a physician who lives in a large city, being constantly on the alert, when consulted for amenorrhœa, to distinguish truth from falsehood, and a patient truly interesting by her situation, from a vile creature, who wishes to hide a fault by the commission of a crime. In adverting to the extreme difficulty, not to say impossibility, of distinguishing, for the first two months, amenorrhœa from the cessation of the menses the consequence of pregnancy, M. Moulin takes occasion to notice the superior safety of blood-letting over the common emmenagogues, in cases where gestation has commenced. He adds, that if this state of things really exist, the blood, when cooled, will exhibit on the surface of the fibrine a whitish cloud, which becomes more and more evident as pregnancy is advanced, and is often changed, during the latter months of this period, into a pleuritic coat.

Our medical brethren in this country are too well prepared, both by general reasoning, and by their own experience of the frequent success of venesection, as well for the relief of the uterus in amenorrhœa, as for that of other organs brought into morbid association, to require of us any elaborate commentary on the benefits which will frequently result from the practice recommended by Dr. Moulin. For ourselves, influenced by our observation of the state of the functions generally in suppressed menstruation, and by the conviction of its being more generally the effect than cause of other diseases, we most commonly, if not universally, make venesection precede other remedies.

22. *Cure for Tænia.*—The following remedy for tænia, is recommended in the *Journ. der Prakt. Heilkunde.* ℞. Terebinth. venet. ʒi. Extract. hyoscyam. gr. iv. Calomel. gr. viii., m. ft. massa. Divide into two-grain pills, rolled in powder of liquorice root. Of these, four are to be taken every three hours; and, during the entire period, the patient is to use no nutriment but weak broth, or coffee, or tea. The dose will be increased or diminished, according to circumstances. If the worm be not expelled the first day, the pills may be continued for two or three days. In cases, of rare occurrence, in which the first trial is not successful, the medicine is to be resumed after the lapse of a few days. Instances of the entire success of this prescription in tænia, are furnished by German practitioners.

23. *Effects of Bi-chromate of Potass.*—Dr. Cumin, in the *Edinburgh Medical and Surgical Journal*, for October last, makes the following observations on this substance.

"Soon after I succeeded Dr. Brown, in the charge of the Lock Hospital, (Glasgow,) I began to prescribe a saturated solution of bi-chromate of potass, as an application to tubercular elevations, excrescences, and warts. In these cases, the new growth has sometimes been removed by absorption, without any slough; but where a slough has formed, it has always served to expedite the cure, and in no instance have I observed it to be followed by a deep or unmanageable ulceration. In a case of warts, more extensive and formidable than any I had before met with, or seen delineated, which I treated last winter, the solution of bi-chromate was the only remedy which acted effectually, without causing such intolerable pain as to preclude the continuance of its application.

The bi-chromate of potass, although decidedly poisonous, does not appear to be very active in its operation. It inflames the stomach, both when introduced into that organ, and when injected in considerable quantity into the veins. Under these circumstances, it would require some degree of medical hardihood to venture on its employment as an internal remedy; but it is probable, that, if cautiously used, it may be found, like arsenic, to possess considerable tonic virtues."

24. *Hydrocyanic* (*Prussic*) *Acid in Chorea.*—In the Journal above quoted, is a detail of the successful treatment of two cases of Chorea, by **John Stuart**, Surgeon, of Kelso. The remedy chiefly relied on, after purging had been practised, was the hydrocyanic acid. The first patient, aged thirteen years, began the use of this medicine, October 27, 1826, in doses of four drops every two hours, and continued it until the 24th November; having, during one period of forty hours, taken ninety-six drops of the acid. On the 10th of December, the girl was described as being quite well, and as having become very fat and stout.

In the second case, of a girl aged thirteen years, the first dose of the acid made her very sick, and caused violent vomiting; but the succeeding doses only occasioned uneasiness of stomach and bowels, and head-ache. An increase of the dose to three drops was followed by violent retching, upon which the quantity was again reduced to two drops. Gamboge pills were directed, in alternation with the acid. On the 27th May, six weeks after the patient had been placed under the above treatment, she was declared to be convalescent. Mr. **Stuart** particularly insists on the necessity of care being taken that the medicine is genuine. The best way to give it, is, he thinks, in simple distilled water, or, if it should be apt to excite nausea, in cinnamon or peppermint water; and, on account of its great liability to spontaneous decomposition, the mixture should never be made to last longer than twelve hours. This last advice is worthy of especial remembrance.

25. *Employment of Iodine, in the Treatment of Cynanche Parotidæa.* (*Rust's Magazin für die gesammte Heilkunde*, 1826.)—Dr. **Neumann**, of Neustadtel, in Silesia, has employed the hydriodate of potass with great success, as an external application in cynanche parotidæa, which prevailed epidemically in Neustadtel, in June, 1823. Among the poorer orders, who were treated in the ordinary way, the disease was very tedious, and generally ended in suppuration. Among the better ranks, the treatment consisted in the exhibition of an emetic, and the application over the tumour of a plaster composed of eight parts of mercurial ointment, and one part of the hydriodate of potass; and the ordinary effect was a radical cure, within three or four days. Dr. **Neumann** adds, that he never observed, in the cases so treated, any metastasis to other organs; and he is disposed to impute this to the formation of an erythematic eruption, which always appeared on the first or second day, and remained from eight to twelve days.

The author has annexed a very instructive case, illustrating the deleterious effects of this drug, when given in too great quantity. The irregularity of the heart's action thus induced, though it had lasted for a twelvemonth, was soon subdued by the employment of digitalis and cherry laurel water; and the tendency to faint, and anxiety, at the same time disappeared. The dropsy, however, continued much longer; but at length it slowly receded, under the use of the *Arnica*, combined with soap.—*Edinburgh Medical and Surgical Journal*, October. Query.—How far is the Iodine entitled to the credit of the above cases, to the exclusion of the mercurial ointment?

26. *Iodine, a cure for Chorea.*—In the September number of our contemporary, "The Philadelphia Monthly Journal of Medicine and Surgery," edited by N. R. SMITH, M. D., Professor of Surgery in the University of Maryland, there is a [illegible] Chorea, recorded by Dr. PHILIP PELTZ, of this city, in the second [illegible] which he directed the employment of tincture of Iodine, with entire success. Dr. PELTZ gives some very judicious remarks on his view of the pathology of this disease; which, he conceives, may be divided into *acute* and *chronic*. Both stages, he thinks, consist in an alteration of the *tunica arachnoidea* of the brain and spinal marrow. In the acute, this membrane is actively influenced—in the chronic, it is thickened.

On being called to the patient, a female nine years of age, whose case he describes, he substituted for the stimulating practice, which had until then been pursued, the application of fifteen leeches to each temple, and the use of salts until free alvine evacuations had been procured. The leeches and salts were repeated every other day, and the pediluvium and sinapisms, every day, for about ten days. A blister was then put on the nape of the neck, and kept discharging for some time. Frictions of turpentine were recommended, and with some effect, along the course of the spine, and continued for a considerable period. Under this treatment there was some improvement.

"On the 9th June," (continues Dr. PELTZ—about three weeks after he began his treatment—) "supposing that the inflammation was almost or altogether subdued, and that there remained thickening of the tunica arachnoidea alone, I prescribed tincture of iodine, in doses of six drops, three times a day, to be given in a little sugar and water. The dose was gradually increased from this to twenty-four drops, three times a day. With this medicine my patient improved finely, and at length, completely recovered."

27. *Treatment of Cramp of the Stomach, caused by Tartar Emetic.*—Dr. DRAKE, in the September number of the Western Medical and Physical Journal, of which he is co-editor with Dr. WRIGHT, gives us some valuable observations on the pathology and treatment of cramp of the stomach, caused by tartar emetic. His distinction between the two stages of the disease, merits particular notice from the two contending parties, who are equally clamorous, the one for "stimulating out and out;" the other for "bleeding, bleeding;" not merely in this variety of gastric spasm, but in that caused by drinking cold water, and in certain spasmodic gastro-intestinal affections, such as colica pictonum, and bilious colic. The first stage of the malady under notice presents us with the phenomena of a dangerous spasmodic disease, involving the muscular functions of both organic and animal life, and connected with general exhaustion of the vital powers. It is to be treated with antispasmodics and stimulants, internal and external." Of these, Dr. DRAKE enumerates, 1. Spirit and water taken liberally. 2. Laudanum, taken in doses of fifty or sixty drops, at short intervals, until the disease abates. As a vehicle for the laudanum, nothing

is, he thinks, so good as the Spiritus Mindereri. 3. The volatile oils of mint, cinnamon, and peppermint, the tincture of lavender, ammoniated alcohol, and sulphuric ether. 4. Cathartic enemata; or, if diarrhœa be present, demulcent injections with laudanum. 5. Externally, the general warm bath; or, if this cannot be had recourse to, the feet and legs ought to be immersed in hot water, and hot fomentations made to the epigastrium, the *punctum saliens* of all the morbid affections. Hot and pungent sinapisms, or a piece of flannel moistened with the oil of turpentine, and applied to the same part, are still more powerful, and in desperate cases, should never be omitted. 6. Lastly, if a large quantity of the tartar emetic have been swallowed, vegetable infusions of whatever contains the tanno-gallic acid, as of hyson tea, Peruvian bark, oak bark, or the nutgall. At the same time, the throat should be titillated, so as to excite vomiting, and rid the stomach of the offending material. We would suggest, with all deference to Dr. D., the propriety of placing these two last measures at the head of the list, as the first to be had recourse to.

"The foregoing remedies will, in general, succeed: when they do not, the patient either dies from the impress of the medicine upon his nervous system, or gastritis supervenes. Many physicians, not aware of the facility with which inflammation succeeds to irritation, continue the stimulating treatment after the former condition has arisen, and do irreparable mischief." "The remedies for the Gastritis from tartar emetic are:—

1. Blood-letting. It should be, first, from the arm, and secondly, from the pit of the stomach; by leeches, if they can be had, or by cupping, if the parts be not too tender to bear that operation.

2. Total abstinence from solid food and all stimulating drinks and medicines; nothing being allowed, but mild and demulcent beverages, and those in small quantities.

3. Cathartic enemata.

4. Calomel in scruple or half scruple doses, every four or six hours, with opium, if much gastrodynia be present.

5. Finally, a large blister to the pit of the stomach; and others to the ankles, if the circulation of the extremities should be languid, and their temperature reduced. By a timely resort to these measures, the second or inflammatory stage of gastric cramp, may always be cured; while, treated on the stimulating plan, so well adapted to the first or spasmodic stage, it would as constantly prove fatal."

Except in this recommendation of the scruple and half scruple doses of calomel, we do not believe that any exception can be found against the propriety and philosophy of Dr. DRAKE's therapeutical course in cramp of the stomach. Calomel in such doses, not unfrequently produces vomiting and irritation of the stomach. Is it ever necessary in genuine gastric inflammation, if we have command, and make timely use of the other remedies? We believe the question ought to be often propounded by the physician to himself, before he makes use of calomel in any acute disease. For ourselves, we are not entirely prepared to give a definitive reply.

28. *On the Nature and Treatment of Colica Pictonum.* By GUERIN DE MAMERS, M. D. P.—Such is the title of a very instructive paper in the *Annales de la Med. Physiol.* for August. The author sets out with announcing the following propositions: 1. Neither pain on the one hand, nor, on the other, acceleration of the pulse and augmented heat, are sufficient data on which to presume, in the first instance, a real disorder of the nervous system, and in the second, an unequivocal affection of the sanguiferous system. 2. Inflammation may exist even to a great extent, without any of the symptoms peculiar to a disorder of the blood-vessels, (such as heat, and

pulsation of the arteries.) 3. These symptoms may exist in all their intensity, without any true corresponding inflammation, and merely indicate at this time a state of simple congestion. 4. And even though these same signs should be associated with pain, there does not necessarily result a compound state of simultaneous disease of the nervous and circulatory systems, any more than when the disease has been ushered in by the above symptoms, and pain has supervened at a subsequent period. Things may be in such a state on this occasion as merely to indicate a simple nervous or sanguineous affection, joined only in one case with disordered innervation, on the other with disturbed circulatory movements.

In colica pictonum, then, continues our author, there may be phlegmasia, notwithstanding the absence of all the symptoms peculiar to an affection of the sanguiferous system; as likewise the union of all these symptoms may be insufficient to enable us to pronounce, with certainty, on the existence of a phlegmasia. We are to be guided more in our prognosis, by the length of time which has elapsed from the invasion of the malady, by the particular nature of the pains—their return by exacerbations, joined to their relief by pressure, cold, and special sedatives of the nervous system, or their exasperation by these same methods, and their continuance. He considers colica pictonum as an affection essentially *nervous*: in the commencement it presents no other character, but if not arrested in its course, the irritation, which at first only affected the nervous system, is soon propagated to the sanguiferous, and then the disease can no longer be considered nor treated as at first, that is, as purely nervous. The capillaries distributed to the affected part, have undergone, both in their organic conditions, and their vitality, a marked and profound modification, and the disease has now assumed all the characters of a true phlegmasia; that is to say, a morbid condition, the last element of which (sanguineous irritation) may be more or less evident, but which has not the less a positive existence, diagnostic symptoms, and peculiar therapeutical treatment. On this distinction rests the secret of the successful management of the disease in question, and by it we can explain the successful or unsuccessful manner of treating it. Up to the present time, our best observers have neglected to indicate with precision the epoch in which the irritation of the sanguineous capillaries of the digestive mucous surface is associated with the irritation of the nerves distributed to this tissue, or to the muscular coat; in other words, to indicate the time when gastro-enteritis supervenes on *colic*, and the depression gives way to the tumefaction of the abdomen, and slowness to frequency of the pulse. Dr. Guerin de Mamers concludes his essay by a critical examination of the treatment of colica pictonum pursued at the Hospital de la Charité, in Paris, and by Dr. Ranque, of the Hotel Dieu, in Orleans. This disease is, he contends, an affection essentially of the same nature, and consequently to be treated, not indeed always by the same means, but agreeably to the same principles. The varieties to be met with in the different cases are relative not any specific difference in its nature, but to the different stages in which it is observed and treated.

Our readers cannot fail to be struck with the general coincidence of views, between Dr. Drake, when describing the effects of over doses of tartar emetic, and the treatment demanded for their relief, and Dr. Guerin de Mamers, in his account of the disease produced by lead and the therapeutical indications for its cure. Philosophy and experimental observation here go hand in hand, and invite the physician to be their expounder and historian.

29. *Colica Pictonum, treated by Dr. Ranque, Physician to the Hotel Dieu at Orleans.*—Between the years 1820 and 1826, Dr. Ranque has treat-

ed 147 cases of colica pictonum in the above hospital, without the loss of a single patient. He does not propose his method for those cases in which there are symptoms of inflammation in the abdomen. This inflammation he considers as quite a supervention, and in no way essentially connected with true colica pictonum, which is an affection of the nervous system, quite independent of phlogosis. When abdominal inflammatory symptoms appear, the disease is to be treated by leeching alone, and the treatment of the colica pictonum is to be for the time suspended.

In the uncomplicated cases of this disease, our author has invariably succeeded by the *methodus medendi* now to be described. This method consists in a plaster over the abdomen, another over the loins, glysters, and a certain potion internally. The plaster for the abdomen is composed of, an ounce and a half of emplastrum galbani compositum, the same of emplastrum lyttæ—half an ounce of "theriaque"—one drachm of camphor, and half a drachm of sulphur. These are to be incorporated, secundem artem, and spread on a large piece of leather, which may cover the whole front of the abdomen. Previously to its application, however, the plaster is to be warmed, and a drachm and a half of tartar emetic, mixed with some camphor and sulphur, is to be spread over its surface. The plaster over the loins is to be made in the same way as that for the abdomen, with the exception of the tartar emetic, which is to be omitted. Those parts which are in pain, in any other region of the body, are to be rubbed with a liniment, into the composition of which the extract of belladonna enters pretty freely. A mixture is also taken internally, each dose of which contains twenty drops of the ethereal tincture of belladonna, (one ounce of the powdered leaves infused for three days in three ounces of sulphuric ether,) drinking plentifully of barley water, with or without gum arabic. The patient is to take no solid food whatever, and indeed as little of any kind of nourishment as possible. The lavement made use of by Dr. Ranque, is composed of a decoction of linseed, four ounces of oil, and twenty drops of the tincture of belladonna above described. The lavement and the potion are to be taken every day. On the third day, the abdominal plaster is removed—the lumbar one is allowed to remain on. If, however, the colicky pains should not have ceased by the third day, which they generally do, the abdominal plaster is to continue on some time longer. In such cases there will be a plentiful crop of antimonial pustules, and much cutaneous irritation, for which fomentations and poultices must be employed.

The cure required from two to twenty-five days. One hundred and twenty-nine were cured between the second and twelfth day—the remainder between the thirteenth and twenty-fifth day. In almost every case the vomitings ceased on the second day of the treatment. By the fifth day the abdominal pains ceased in the great majority of cases. On the sixth day the pains in the limbs ceased, and the constipation was overcome soon afterwards; which was the prelude to restoration of health.

The success which Dr. Ranque obtained by this method in colica pictonum, induced him to extend it to some other affections; viz., to chronic vomitings (of apyretic character)—to tetanus, (not traumatic)—to epilepsy, considered dependent on abdominal derangement—to puerperal mania, &c.; and in various cases he has been fortunate.—*Med. Chirurgical Review, October.*

30. *Acute Gastro-Cerebral Inflammation, accompanied by symptoms of Hydrophobia, Hydrocephalus, Cerebral Fever, Arachnitis, &c.*—Under this head, we find, in the *Annales de la Médicine Physiologique*, an account of the case of a child, five years of age, in whom, after the ordinary symptoms of gastro-enteritis had disappeared, under a suitable treatment, viz. leeches to the epigastrium, and antiphlogistic drinks, there supervened violent disease of the brain. Dr. Richard, who saw the patient after the coming on of the paroxysm, marked by symptoms of hydrophobia, found him senseless, lying on his belly, with his head turned to one side; his eyes closed, and rolled up, as it were, under the upper lids, but retaining their sensibility to light, and with pupils greatly dilated. The face was highly injected; skin of a burning heat; pulse contracted, hard, and frequent; the carotids beat with great force. The remedies prescribed to meet this state of things, were twelve leeches applied by the physicians (Drs. Richard and Bougarel) themselves, over the jugular veins, and sinapisms at the same time directed to the feet, and refrigerants to the head. Orders were left to allow the bites of the leeches to bleed freely. Six hours afterwards, the patient, when visited by his physicians, was nearly exanimate, in consequence of the hæmorrhage from the wounds produced by the leeches. This was arrested, and the patient stimulated externally by frictions with warm flannels, and the injection of some spoonfuls of light broth into the stomach; the legs were enveloped in mustard, and warm cloths frequently renewed were applied to the body. Re-action was gradually effected; the skin became warm; the pulse rose and acquired such frequency as to beat 125 times in a minute. All stimuli were then withheld, and mucilaginous and demulcent drinks substituted in their stead.

The second day was passed in alternations of calm and exacerbation; there were about four paroxysms, of very diminished violence, however, during these twenty-four hours; the pupil was still dilated, and the face pale. This state of things continued without much change, until the third or fourth day; when the pulse began to be diminished in frequency; sense was restored; the irritability to light was lessened, and the pupil recovered its wonted contraction; the appetite was good. On the 22nd of May, ten days from the attack, the convalescence was complete.

The editor of the *Annales* thinks, that it is very doubtful whether the child would have recovered without the copious loss of blood, which put his life in jeopardy. He notices the astonishing rapidity with which young subjects recover after excessive discharges of blood; but he very judiciously adds, this fact is not to countenance rashness; for similar hæmorrhages would be fatal in anemic subjects, as well as in those whose organs have been in a state of chronic inflammation before the supervening of the acute.

31. *Acute Rheumatism, Inflammation of the Spinal Marrow.*—The subject of disease, in this case, was a man, who, until the age of fifty, had always enjoyed good health; after which time he suffered under intermittent fever, followed for some months, by ischuria, the effect of stricture of the urethra. To this succeeded rheumatism in the back, neck, and shoulders, and finally a paralysis, which soon became general and ended in death. An examination of the body exhibited the muscles of the posterior part of the trunk of a dark red, gorged with blood, and easily torn; the spinal marrow and its membranes were inflamed from the fifth cervical to the eleventh dorsal vertebra.

MEDICAL JURISPRUDENCE.

32. *Account of the Medical Evidence in the case of Mrs. Smith, tried at Edinburgh, in February last, for Murder by Poison. With Notes and Commentaries.* By R. Christison, M. D. F. R. S. Ed. F. R. C. Physician and Professor of Medical Jurisprudence and Police in the University of Edinburgh, &c.

We regret very sincerely that our limits will not allow of our re-publishing the article headed as above, entire, from the April number of the Edinburgh Medical and Surgical Journal, the more especially as it will be a task of some difficulty to give an abbreviated history of the case; which is the more interesting to the general reader, as well as physician, on account of 'the striking coincidence among all the witnesses in regard to the chief points which came under their review.' The angry discussions among some of the medical witnesses after the trial are to be regretted. We have not seen any thing to change our belief of the utility of the present report.

Mary Smith, a farmer's wife, near Dundee, was indicted at Edinburgh on the 5th of February last, for administering poison to Margaret Warden, her servant. When the trial had proceeded for eight hours, and most of the crown witnesses, or those for the prosecution, had been examined, one of the jurymen was suddenly taken ill. He was removed from court, and committed to the charge of three of the medical gentlemen in attendance as witnesses. After these physicians had been examined touching the nature of the juror's malady, which was by them declared to be epilepsy, and how long he would probably be incapacitated from the performance of his duty, which they alleged might be for one hour, or for six hours, or more, the court found "that in respect of the evidence now delivered by the medical gentlemen, it would be contrary to justice and humanity to proceed with the trial that day," and postponed it accordingly.

On the 12th of February, the trial was resumed; but the proceedings were confined to an argument by the different counsel, as to whether it was legal to resume the trial under the circumstances. The court found that it was; and the prisoner was finally tried on the 19th, in presence of all the Justiciary Judges, viz. the Lord Justice Clerk, and Lords Gillies, Meadowbank, Alloway, Pitmilly, and Mackenzie. Twenty witnesses were examined for the crown, and sixteen more for the prisoner; and their examination, which was full of important evidence, lasted nearly fourteen hours. A short analysis of the moral evidence will be sufficient for the object of this narrative.

Evidence for the Crown.—The deceased was unmarried, twenty-five years of age, and three months gone with child—the prisoner's son being the father. She had an illegitimate child four years before. A short time before her death, she frequently spoke of her pregnancy to several of the farm servants; and Mrs. Smith too was aware of it, as she had herself discovered the intimacy between the girl and her son, and before the girl's death gave various people to understand she was acquainted with her state. After her death, however, when reports of her having died by poison were circulated through the country, the prisoner denied to every one that she ever had any such knowledge.

Drugs had been given by the prisoner on more occasions than one, and probably with the consent of the deceased to procure miscarriage. Though they occasionally quarrelled on the subject of the deceased's pregnancy, they were in general on good terms, and particularly so just before the fatal event.

Nineteen days before the girl's death, Mrs. Smith openly sent a message to a surgeon of her acquaintance at Dundee, for *poison* to kill rats; and on a Friday, twelve days afterwards, she as openly got it from him herself in a paper parcel, marked *arsenic, poison*. In her first declaration, twenty-four days after the girl's death, she denied this fact; but afterwards, in her second declaration, admitted it. The servants had not complained of rats since the preceding May; they had not, even the girl who had charge of the prisoner's grand-children, been told that poison was laid—nor was any thing of the kind seen in the loft before the deceased's death, or till after the prisoner's commitment, when oatmeal was found sprinkled in the holes of the walls.

On the evening of the Tuesday, after the poison was procured, and while Margaret Warden was sitting in the kitchen with a fellow-servant, Jean Norrie, preparing to go to bed, the prisoner entered with a wine-glass nearly full of a "thick white mixed stuff." After remarking that she had been taking her own share of it, she gave Norrie a little of it to taste in a tea-spoon; and then, without any further observation, presented the glass to Margaret Warden, who, likewise, without saying any thing, swallowed the whole contents. This draught, the prisoner afterwards told several people, was castor oil. Another draught was administered by her on Thursday morning, which she also afterwards said was castor oil; but there was no other evidence as to its nature.

During her illness, the deceased several times dropped strong hints to her companion, Norrie, of her belief that their mistress had given her injurious drinks; and on the morning preceding her death, when she knew her danger, she repeated these hints more strongly, in the presence of Norrie, another servant, and her own mother; and finally, on being questioned by her mother when alone with her, she declared Mrs. Smith was the person who gave her what made her ill. Various other circumstances militated against the prisoner, such as her agitation and contradictions during her examination.

Evidence for the Prisoner.—The fact that rats had been common about the farm-steading was proved. A boy, whose name and residence was not learned, had tried to purchase arsenic in the neighbourhood not long before Margaret Warden's death. But the most important circumstances in the prisoner's favour were, that the deceased had lamented to various people her state of discomfort, on account of her inability to work, and her reluctance to go to her mother's, who had refused, she said, to admit her into her house; and that, not long before her death, she repeatedly declared, in a serious manner, to several persons, her resolution to destroy herself.

But the alleged conduct of the mother was disproved by direct evidence. No poison was found about the deceased's bed; none could be traced into her possession, even presumptively; and, throughout her whole illness, nothing occurred in her behaviour to lead those around her to form the slightest suspicion that she had poisoned herself.

The *medical evidence* in the case, embraced two very different questions. "First, the soundness of the prisoner's mind, when she underwent her examination, and prevaricated so much; and secondly, the cause of Margaret Warden's death, whether she died of poison? whether she took poison on Tuesday? whether what she took on Tuesday was the fatal dose? whether the poison she took was the same with that procured a few days before, by the prisoner?"

As regards the first question, or *that relating to the prisoner's state of mind, when her declarations were taken*, there was some discrepancy of opinion. She had been, it seems, subject to hysteric attacks, with one of which she was seized in the night prior to her examination. Mr. ALEXAN-

DER, surgeon, of Dundee, who had been in the practice of attending Mr. Smith's family for five or six years, and who was sent for on this occasion, about one o'clock in the morning, (Monday) and left her at five, did not think that at that time she was fit to be examined as a person accused of crime. He saw her again on Monday evening, in jail, and she was not even then thoroughly collected, and had but an indistinct recollection of what had transpired during his first visit. The reason assigned by her relations for the attack on Saturday, was a great fright that day, in consequence of one of her grand-children being nearly drowned. Dr. JOHNSTON, physician, in Dundee, was requested by the sheriff-substitute of that town, to go to Denside, the residence of Mrs. Smith, and ascertain whether she would be able to go to Four Mile House, about a mile distant from her own house. He found her in bed, not, certainly, in robust health, but presenting nothing to prevent her making the required journey, or her being examined. She answered correctly to all the questions put to her by the doctor, and accompanied him and her husband and one of her sons, in a carriage, to the Four Mile House, where she underwent her examination. Her appearance did not seem to him to be altered, afterwards, when she came out into the room where the doctor was. This was the same day on which the prisoner's state of health was deposed to by Mr. ALEXANDER.

Notwithstanding the objection of the counsel for the prisoner, Mr. Jeffrey, to the admissibility of the declarations, the court found that they were admissible; for, in addition to the testimony of Dr. JOHNSTON, the sheriff-substitute of Dundee, and the county magistrate of Forfar, who were present and took the prisoner's declaration, deposed to her being quite collected, until she answered a question near the close, and then she became agitated, gasped, and fell back; but immediately after recovered her self-possession, and said that nothing ailed her.

PART II.—*Evidence with regard to the cause of death, and the several questions connected with the administration and effects of arsenic.*—It seems that no medical man saw the deceased, Margaret Warden, until she was almost moribund; and of course the account of the symptoms must be imperfect, gleaned as it is from the testimony of her fellow servants. Of the wine-glass-ful of a thick white mixture, which the deceased took on Tuesday evening, Norrie, her comrade, declared that she had tasted a little of it in a tea-spoon, and swallowed it; that it did not taste like castor oil, nor was it acrid; that she never suffered any harm from what she took. She slept with the deceased, and never awoke during the night.

"On the morning of Wednesday, between five and six, Margaret Warden told her comrade, Norrie, that she had not been so well as usual through the night; and not long afterwards, while sitting, striking a light, she became suddenly sick and appeared about to fall from her chair; upon which Norrie led her to bed. During the rest of the day, she was repeatedly visited at various times by Norrie and two other servants. None of them saw her vomit, or observed any marks of her having vomited; and although she was evidently unwell, and complained to Norrie of pain in the bowels, she said to another servant, about mid-day, that she was better; did not complain to her of pain, and actually took for dinner, and retained on her stomach, a pint of milk and a flour cake, as big as a soup plate. I must add, however, that the prisoner in her declarations, said the deceased had vomiting and purging on Wednesday; and that according to Dr. TAYLOR, one of the medical witnesses, the deceased told him she had these symptoms both on Tuesday and Wednesday.

No evidence was procured as to her state from six on Wednesday evening till Thursday forenoon, except that when Norrie awoke once during the night, she found the deceased awake also. It was on Thursday that she got the second draught from her mistress. On the forenoon of that day, she was much worse, had excessive thirst, vomited a great deal, particularly when she drank any thing, purged frequently, and complained of severe burning pain in her whole bowels, but particularly in the side. These symptoms continued unremittingly, till her death, which took place next day, (Friday,) at nine in the evening; and, on the morning of that day, when she was seen by Dr. Taylor, she had also excessive prostration, occasional stupor, cold extremities, clammy perspiration, and a pulse imperceptible at the wrist and temple, and felt near the heart beating faintly 150 times in a minute. She never complained of sore throat, or of any urinary affection.

The body was buried on the 10th September, two days after her death; but it was disinterred and examined twenty days after that, in consequence of the reports raised against the prisoner.

Before speaking of the evidence of the medical gentlemen, it must be premised, that "the witnesses, although allowed to be present at one another's examinations while the medical facts of the case were stated, were ordered to withdraw during the delivery of each other's opinions."

Dr. Taylor, *Physician and Surgeon at Broughty Ferry*, on examination, deposed to his having been sent for to visit Margaret Warden on Friday, the 8th September last: he saw her at one in the forenoon of that day; after some conversation with Mrs. Smith, he entered the kitchen just as the patient "was at the close of a fit of vomiting, after which she lay down exhausted with the effort: her countenance was sunken and ghastly." Other symptoms as above-mentioned. On his twice putting the question, when she was taken ill, she replied that it was on Tuesday night, with vomiting, purging, and pain in the bowels, particularly in the side; and, in answer to the question, when she had been in a particular way, she said, not for three months. There was evident fulness in the lower part of the belly. Her mother was at the bed-side all the time he was there. He declined giving the girl any medicine; and, in reply to a question of Mrs. Smith's, said he made it a practice not to give medicine to one he conceived dying. Mrs. Smith asked, as she had done during her conversation with the doctor before he saw the patient, whether he thought the violent vomiting and purging would carry off the child; adding that "she would not care though it did, for if the gudeman kent it, he would be like to tear down the house about them." The arms of the girl were more livid than natural.

On being cross-examined by Mr. Jeffrey, Dr. Taylor stated it as his impression that Margaret Warden had, when he saw her, cholera, the symptoms being analogous, and the disease being very prevalent in the country at that time. He had no idea that the deceased was ill of the effects of poison. In reply to a question of the Lord Advocate, he said that the cholera in his part of the country never proved fatal sooner than fourteen days. From the symptoms, the examination of the body, and the analysis of the contents of the stomach, he has no doubt that Margaret Warden died of poison, and that the poison was arsenic. A report to this effect was drawn up by Drs. Taylor, Ramsay, and Johnston.

In this report it was stated, that the body was disinterred and examined on the 30th September, (twenty-two days after death,) in the church-yard of Murroes; that there were marks of considerable putrefaction, externally, but that the stomach and bowels were in a state of "wonderful preservation." The stomach, externally, was every where painted with red vessels, bright red in most parts, dark red in other parts. The omentum was in the same state, especially at its base. The small intestines were likewise reddish, in many parts contracted in diameter and corrugated; and the mesentery at these parts was inflamed. The inner coat of the stomach "was raised up, in many parts separated from the adjoining coats, in others corrugated or abraded in irregular circumscribed patches, with a raised mark, formed by the other coats. The inner surface seemed as if it had been seared with a hot iron, the coats being drawn together in a very singular manner. In one part there were large patches of a coal-black colour, confined entirely to the villous coat." There were no such marks in the small intestines; the inner membrane of which, however, bore otherwise the same appearance as the stomach.

The stomach contained ten or twelve ounces of a thick fluid, with yellowish particles floating in it. Similar particles were adhering to the villous coat, and at some parts were deeply imbedded in its substance. At these places, the membrane, except in colour, looked like a fine texture, corroded by lunar caustic, and round one spot there was a bright areola. Besides the yellow particles, a white powder was scattered over the whole stomach and intestines. There was a three months' fœtus in the passages, and half expelled from the vulva. The other viscera in the chest and abdomen were sound.

The report then concludes with observing, that the stomach, intestines, and their contents were removed for analysis; that arsenic was detected in various parts of the alimentary canal, but particularly in the yellow particles found in the stomach; and that the results of the inspection and analysis led the reporters to infer, that the deceased had died of poisoning with arsenic.

Additional particulars of this inspection are given in the evidence of Dr. JOHNSTON, Physician and Surgeon at Dundee, already mentioned. The coffin was raised in his presence, and in company with Drs. RAMSAY and TAYLOR. They "examined the bowels of the chest and belly on the spot; the rest of the examination could not be conducted in the burying ground." The stomach and intestines were therefore removed; the former having been previously tied at each end and put into a bladder, the intestines were put into another bladder, and some of the contents of the stomach which had escaped were put into a bottle. "The morbid parts were deposited," says Dr. TAYLOR, "in my house about dusk; were placed in my consulting room, of which I carried away the key when I was obliged to go out; and were afterwards taken along with me to my bed-room when I went to bed." They had been previously sealed up in a wooden box by Dr. RAMSAY with his own seal. The seal was not broken till Sunday, when he and Dr. TAYLOR were present. The different articles were then taken out, and the half of each separated and tied up in bladders, or sealed in bottles, for the purpose of being sent to Edinburgh. They were all put in an earthen jar, with a metal lid, which was tied over and sealed with Dr. RAMSAY's seal. Dr. J. accompanied the person who took them to the mail-coach office, and saw them lodged.

"Our experiments," continues Dr. JOHNSTON, "were made with the other half of the articles. I tried various tests on the contents of the stomach and intestines. The result was the most perfect conviction that arsenic was in the stomach and bowels; and that it was sufficient to account for death."

On being cross examined by Mr. Jeffrey, the lord Justice Clerk, and the lord Advocate, Dr. JOHNSTON stated that he had never before seen a case of poisoning with arsenic; that this was the first course of experiments he ever made on the contents of the stomach in such a case. The tests first applied were *liquid tests*, which are directed to ascertain the presence of arsenic, by the appearance of certain precipitates. These tests were 1. nitrate of silver, ammonia being previously added to the suspected fluid; 2. sulphate of copper; 3. ammoniuret of copper; 4. nitrate of silver, supercarbonate of potass being previously added to the suspected liquor; 5. sulphuret of potass; 6. lime water.*

Other tests were then applied; for the liquid ones were not, says Dr. Johnston, considered as absolutely conclusive, though they conveyed a very strong conviction. The reduction of the suspected matter to the original metal was then tried: a portion of the suspected matter was mixed with black flux in a tube, and by heat they procured that crust which is considered characteristic of metallic arsenic. Another experiment was the passing of sulphuretted hydrogen gas through the solution of the contents; a yellow precipitate was formed, which was afterwards decomposed with black flux and another crust was procured characteristic of metallic arsenic.

The test of reduction was tried before the report was made out. The quantity of crust was so small, that Dr. Johnston says he could not scrape it with a knife from the tube: "there was not a grain, perhaps not a twentieth of a grain."

Dr. Johnston made a similar set of experiments with pure arsenic, which he got from Mr. Russell, (*from whose shop the prisoner procured arsenic,*) and the results were analogous. The colours of some of the precipitates were slightly different, which was presumed to arise from animal matter being present in the matter he and his colleagues operated with.

Dr. Ramsay confirmed the testimony of the last witness; and added that, in consequence of his being taken ill, he was prevented from attending the reduction experiments of Drs. Johnston and Taylor. But he afterwards repeated them on a portion of matter which had been kept for him, and obtained a crust by the black flux. He carried this crust to Edinburgh, where it was shown to Dr. Christison, who proposed its being subjected to a farther test, the conversion of the metal into the oxide. Heat was applied to the fragments of the glass on which the crust was, after they had been put into a glass tube; and crystals of oxide of arsenic were procured. The matter reduced by Dr. Ramsay was the sulphuret made by a stream of sulphuretted hydrogen sent through the solution of the suspected particles. He had no doubt of arsenic having been the cause of the death of the deceased. The symptoms were such as it produces, as were also the morbid appearances.

On being cross examined by Mr. Jeffrey, the lord Justice Clerk, lord Meadowbank, and the lord Advocate, Dr. Ramsay admitted that the above were the first experiments he had made on arsenic, but added his having made many since; the quantity produced in the metallic state was very small, probably not more than the twentieth part of a grain; the crystals formed by Dr. Christison were probably less; his information as to the tests for arsenic is chiefly drawn from books. He did not consider the length of the girl's illness any objection to her having died of arsenic taken on Tuesday; though it is remarkable that there was no direct evidence of there having been symptoms on Wednesday so violent as those which generally follow the taking of arsenic, and that she was able on that day to eat a pint of milk and a flour cake for dinner. Death generally follows sooner;

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* Though not forming a part of the evidence, we subjoin the account of the effect of the liquid reagents on the solution of sediment found in the stomach, furnished to Dr. Christison, by Dr. Ramsay. Ammoniacal nitrate of silver caused a bright yellow cloud; the sulphate of copper, a faint green; the ammoniacal sulphate of copper, a light olive green; the nitrate of silver, (carbonate of potass being previously added to the suspected fluid,) a deep yellowish-brown, passing to black; the sulphuret a very bright yellow; lime water, whitish; sulphuretted hydrogen, bright yellow, but rather faint.

but there have been many instances in which life was protracted as long; nor is the suspension of symptoms, though remarkable, unprecedented, and might be explained by the state of the stomach at the time the poison was taken; perhaps to the milk and cake. A person may swallow a great quantity of arsenic without bad effects, if it is vomited soon after; but a small portion may be left, sufficient to light up inflammation, and to prove fatal in two or three days. A very few grains, one or two, might prove fatal on an empty stomach. If a person in perfect health was suddenly seized with vomiting and purging, and arsenic was found in the body after death, Dr. RAMSAY would certainly attribute death to the arsenic.

Dr. CHRISTISON, Professor of Medical Jurisprudence, &c. confirmed the evidence of the preceding medical witnesses. He found, on examination of the various portions of the stomach and intestines sent to him, that "the cardiac end of the stomach exhibited several large, irregular black streaks and patches, produced by the extravasation of blood on its villous coat, and in its substance, and accompanied in one or two places with partial removal of that coat." A small portion of the stomach preserved apart in a pill box, had a little deep excavation, which was filled with a bright sulphur yellow powder.

The bottle contained three ounces of a thick brownish-red fluid, in which oxide of arsenic was detected. The particle imbedded in the ulcer of the stomach, also probably contained some sulphuret of arsenic, a minute quantity of which was likewise probably in the fluid.

The report drawn up by Dr. C., and which he read in evidence, concluded as follows: "As the papers sent to me do not mention any of the symptoms under which the person died, or the state of the dead body generally, a decided opinion on the cause of death can hardly be given. But the appearances in the stomach above mentioned, and the detection of oxide of arsenic in its contents, are quite adequate to account for death; and they satisfy me that oxide of arsenic had been introduced during life, that the person had in all probability lived longer than a day afterwards; and that it was hardly possible she could ever have recovered from the effects of the poison.

"As to the presence of the sulphuret of arsenic in the stomach, which I consider *probable*, this may have arisen either from the administration of orpiment, or of king's yellow, or from the action of antidotes on the oxide, or from the action of a gas sometimes disengaged in the alimentary canal during life, as well as after death."

All Dr. CHRISTISON's tests were on the principle of reduction; except that he once used the ammoniacal nitrate of silver as a trial-test; and this, too, yielded decided indications, so far as its indications could be decided.

On his cross examination by Mr. Jeffrey, Dr. C. admitted that some of the liquid tests employed by Drs. JOHNSTON, RAMSAY and TAYLOR, are not, singly, decisive of the presence of arsenic; but, taken conjunctly, they form satisfactory evidence. Some of them are not correct tests—the sulphate of copper is not a test for arsenic:—the nitrate of silver, with potass previously added to the suspected fluid, is not a very good test; neither is the sulphuret of potass. But the ammoniuret of copper, the nitrate of silver, with ammonia previously added to the suspected fluid, lime water, and sulphuretted hydrogen, are good tests; sulphuretted hydrogen is the best.

Dr. C. reproduced, at a rough guess, between a quarter of a grain and half a grain, by all his reductions. "This quantity, on account of the imperfection in the process of reduction, by which part of the arsenic is retained in the flux, indicates about twice as much arsenic in the contents sent to me." (Dr. C.)

The rest of Dr. C.'s evidence and opinions, drawn out by cross examination, ran chiefly on the quantity of arsenic which would, if swallowed, prove fatal, and the period in which such a dose would exert its baneful effects. The violent symptoms are not always evidenced immediately after the introduction of the poison into the stomach. ORFILA, in his *Toxicologie Générale*, mentions a case in which the poison was taken at eleven in the forenoon; the person ate a hearty dinner at two, and the violent symptoms did not display themselves until seven in the evening, eight hours after the poison was swallowed. Three days is not an uncommon length of time for a case of poisoning with arsenic to last. "People have lived eight days, or several weeks, months, and it is said, even years; and have died of the same poison after all. The common period is two or three days." The smallest fatal dose which Dr. C. has read of in books, was sixty grains. "On an empty stomach, probably a single grain, certainly two grains, would be unsafe; and I should think four grains might prove fatal. The stomach is not so easily trained to the taking of arsenic, as to the taking of opium."

The property of arsenic to preserve the animal solids from putrefaction, is believed on the continent of Europe. This poison has been detected in the body fourteen months after interment.*

"Arsenic," says Dr. C. "seldom causes death by inducing inflammation." It would have been more correct for him to have said that arsenic may destroy life without necessarily causing inflammation.

Medical Evidence for the Prisoner.—Dr. FYFE, *Lecturer on Chemistry*, was examined.—He did not think the liquid tests were by any means sufficient to determine the presence of arsenic; nor that Dr. CHRISTISON'S explanation of the formation of the sulphuret of arsenic in the stomach is admissible. In 400 grains of arsenic sent him by Mr. Russell, an apothecary at Dundee, there was not any of the sulphuret: this latter is rarely contained in the white arsenic of the shops. He admitted, on being cross examined by the lord Advocate, that he was not aware of *any one substance which would exhibit the same appearances with all the fluid tests used by the Dundee gentlemen as arsenic would.* He thought the tests by reduction, mentioned in Dr. CHRISTISON'S report, perfectly satisfactory.

Dr. MACKINTOSH, Lecturer on the Practice of Physic and of Midwifery, in his examination by Mr. Jeffrey, thought it hardly possible, recollecting the dinner which the deceased took on Wednesday, that arsenic could have been contained in the mixture taken on Tuesday. "The symptoms of cholera and poisoning with arsenic are the same—cholera is very common in this country, (Scotland,) after hot summers." The duration of the disease is various; Dr. M. has seen a person die of it in twelve hours in Scotland. He would not take upon himself to pronounce as to the existence of morbid appearances in ten days; much less after three weeks:—even in three days he thinks they are often doubtful. "The blackness observed on the body in this case forms no ground for inferring poison: it is very common as a consequence of diseases of the lungs particularly.

On being cross examined by the lord Advocate, Dr. MACKINTOSH said, "Assuming the fact of the detection of arsenic, and taking along with it the symptoms, it is my opinion the deceased died of poisoning with arsenic."

Dr. CHRISTISON, in commenting on that part of Dr. M.'s evidence relating to post mortem appearances, very properly reminds him of the difference between the loss of the distinctive characters of the tissues and organization produced by putrefaction, and the partial changes in structure, where the parts still retain their firmness and cohesion; and where of course the changes, whatever they may be, cannot be referred to putrefaction, or to the effects of death on the body.

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* This assertion of Dr. Christison is not sustained by the opinion of Orfila, who thinks that the bodies of those dead from poisoning by arsenic are *cæteris paribus*, become as readily putrid as others.—*Ed.*

The reporter of the trial has not favoured us with the *verdict* of the Jury.

VI. SURGERY.

33. *Aneurism—Ligature beyond the Tumour.*—By reference to our first Vol., p. 388, our readers will find a short history of this mode of operating for aneurism, and the details of a case from the Medico-Chirurgical Transactions, vol. 13, in which Mr. Wardrop successfully operated for an aneurism of the carotid artery, by securing this vessel above the tumour. This is the only successful case on record; and even this is denied by Mr. Shaw, (Lond. Med. and Phys. Journal for June,) who asserts that it was not an aneurism, but a mere dilatation of a portion of the vessel, often seen in old persons, at the arch of the aorta, &c., and which has no disposition to increase to a dangerous extent. Whether this be true, cannot yet be determined, but some other cases have since occurred of an extraordinary character, which are recorded in the Lancet, and extracted by the London Medical and Physical Journal, and the Medico-Chirurgical Review, with comments by Mr. Shaw and others. We regret that we cannot detail all the symptoms, that the diagnosis might be presented to our readers for their own decision. In No. 173 of the Lancet, is detailed a second case of Mr. Wardrop's, of a woman, E. B., æt. fifty-seven, who came under his care on the 2nd of December, with a pulsating tumour on the lower part of the right side of the neck, and suffering also from anasarca and various other indications of a diseased system.

Dec. 10. The carotid artery was "tied," (says the report,) by Mr. Wardrop, beyond the tumour.

Dec. 11. Pulsation in the tumour much reduced; pulsation of the opposite carotid increased in force.

A daily report is given, which is not very satisfactory, and on the 21st, the patient is reported in the Lancet as "quite comfortable." The London Medical and Physical Journal for *April*, says, "The patient died last week, and the body was examined on the 23d; (March?) when it was found that the *carotid artery was pervious and undisturbed, presenting one continuous tube throughout, there being no unusual appearance, and no aneurism. The heart was in a state of hypertrophy.* The Lancet, No. 188, attributes the death of the patient to taking cold and drinking spirits after the operation, giving rise to cough and fever, with increase of pulsation and size in the tumour. She died dropsical, with hypertrophy of the heart. A dilatation of the carotid artery at the situation of the tumour, was alone discoverable; this vessel remaining pervious.

The conclusion of Mr. Shaw, and of the Medico-Chirurgical Reviewer, that there was no aneurism, and that the artery was *not tied* by Mr. Wardrop, seems irresistible.

The next case was also a female, aged forty-nine, of an unhealthy appearance, with a pulsating tumour on the right side, immediately above the sternal end of the clavicle, of the size of a walnut, with all the characters of aneurism. It was complicated with symptoms of disease of the heart and large vessels. Mr. Lambert, her surgeon, regarded it as an aneurism of the right carotid at its origin; whether extending to the innominata or not, he could not determine. Sir Astley Cooper discountenanced the operation; remarking, that "it was an aneurism by dilatation, which would not increase." Mr. KEY, Mr. B. COOPER and Mr. CALLAWAY declared the operation inadmissible, regarding the innominata as diseased. Mr. WARDROP and Mr. WAKLEY recommended the operation: which was performed by Mr. LAMBERT on the first of March. The bulk of the tumour was immediately diminished, and its pulsation lessened. Next day, the vascular excitement was less than before the operation, and the patient observed, that "the beating of the heart was gone."

April 17. Patient's health has heretofore improved: on this day, uneasy sensations were experienced in the wound; next day, a hæmorrhage ensued; also on the 19th: and at intervals, until the 23d. *May* 1st, it returned with violence, and the patient died.

Dissection revealed a thick layer of fibrine in the pericardium, the result of pericarditis; lungs and heart healthy; arch of aorta slightly enlarged; innominata not enlarged, but, internally, its lining membrane had some patches of curdy matter. "At the root of the right common carotid (the situation of the original swelling) was a pyramidal tumour, about half an inch in breadth at the base, and extending two inches up the artery. Neither a probe, nor water, could be forced upwards from the innominata. On making a section of the tumour, its lower part was found accurately closed by a firm coagulum. The coats of the artery, round this coagulum, were about four times their natural thickness, and lined by a thin layer of fibrine." There was an ulcerated opening where the ligature was applied, communicating with the external wound: above the artery was completely pervious, so that water injected into the aorta, passed by means of the superior thyroid, &c. into the right carotid, and out of the external opening, satisfactorily accounting for the death of the patient.

Mr. LAMBERT has published a plate of the dissection in No. 194 of the Lancet; from which, as well as from the history of the case, the reviewer in the Medico-Chirurgical Review, asserts very positively that here also there was no aneurism, although there is no doubt the artery was tied. It is to be regretted that so much acrimony mingles with almost every criticism now issuing from the London medical press, that it is impossible for disinterested persons—for those that would be just, to rely on statements positively made. We cannot form an opinion on the present question. But whether these cases, including even the first one of Mr. WARDROP's, be regarded as aneurisms or not, they, by no means, would discourage from the operation of a ligature *beyond* the tumour, under appropriate circumstances; the principle, as stated in our first volume, is defensible, and, we believe, correct: the circumstances to which it is applicable are very rare, but, we still believe that they do occur, and that the operation will, when judiciously resorted to, prove successful. We will detail another case of great interest on this subject from the same Review, for October, extracted from the Lancet; in which Mr. WARDROP, by no means deterred by former experience, has boldly applied the same principle to a reputed aneurism of the arteria innominata with apparent success.

Mrs. A., æt. forty-five, presented, on the right side of the neck, a pulsating tumour of the size of a turkey's egg; its base situated beneath the upper part of the sternum, and its apex rising on the inner side of the sterno-mastoid muscle. The pulsations were strong, and synchronous with those of the heart; it could not be entirely emptied by pressure, and the firmest compression diminished, but did not arrest the circulation through the subclavian. There was no pulsation in the *branches* of the right carotid; but the trunk pulsated very perceptibly, apparently from the impulse received from the tumour. The branches and trunk of the left carotid pulsated vigorously. Examination by percussion and the stethoscope, discovered a wheezing (bruit de soufflet) under and below the right clavicle. (Dr.

Barry, on examination with the instrument, was induced to believe, that from the wheezing, from the impulse synchronous with the pulse, from the "bruit de scie," the aorta at its arch and within the pericardium, was most probably dilated and pressed upon some of the bronchia.) The patient had at times great dyspnœa, increased on the slightest motion, almost to suffocation, and obliging her to use a high pillow: nights restless; sleep interrupted; aspect anxious, pale and sallow; emaciation; pulse frequent, full and throbbing. Eleven months previously, she became first ill, with dyspnœa, cough, and severe pains in the chest, head, and neck. Five months afterwards, the tumour was discovered, and has continued to increase, with an aggravation of all the other symptoms, notwithstanding a severe diet, frequent small bleedings, digitalis, &c. Mr. **Wardrop**, considering medical treatment as hopeless, and taking into account the apparent obliteration of the right carotid, secured the right subclavian artery with a ligature on the 6th day of July, 1827. The pulse at the wrist ceased immediately; and there was great relief to the breathing, and also to the head. The pulsation of the tumour was lessened; its size remained stationary; in twenty-four hours, a slight pulsation appeared at the wrist; the arm did not become numb or cold. The patient continued well; the ligature came away on the 22nd day; the tumour much diminished in size; patient has no pain in the head, cough, or dyspnœa; and she can ascend stairs with comparative ease. On the ninth day after the operation, a pulsation appeared in the right carotid artery. The patient had left the hospital in August, for the re-establishment of her health in the country. The final issue of this new and bold modification of the operation for aneurism, will be looked for with much interest by the profession, whether this be in reality a proper aneurism of the art innominata, or a mere dilatation of the vessel with enlargement of the aorta, as is surmised by the Medico-Chirurgical Reviewer. We hope Mr. **Wardrop** will soon give us his own account of his late operations.

34. *Dislocation of the Humerus.*—"Professor **Smith**, of New Haven, has recently effected the reduction of a dislocated humerus, *seven yearly months* after the occurrence of the injury. The patient was a young woman."—*Philad. Monthly Journal, Aug.*

35. *Dislocation of the Femur.*—Dr. **Morris**, of Ohio, has reduced a femur which had remained dislocated for three months.—*Ibid.*

In each of these cases, reduction was effected *without the use of pullies.* Moderate extension, assisted by a judicious management of the extremities of the bones dislocated, was sufficient.

The editor of the above work, Dr. N. R. **Smith**, makes some pertinent remarks on the management of dislocations, especially on the use and abuse of simple mechanical force. "We believe it will ultimately be admitted by all scientific surgeons, that force contributes infinitely less to the reduction of dislocated bones, than that kind of art which is founded on a correct and minute knowledge of the anatomy and mechanism of the joint, and on the dexterous employment of manual force."

In the October number of the same Journal, Professor **Smith** records a second example of a dislocation of the humerus, reduced ten and a half months after the displacement. Both of these dislocations of the humerus, occurred in the same patient, during puerperal convulsions. "The reduction was accomplished by gentle and long continued extension upon the member; the knee of the surgeon was then placed beneath the axilla, and, the bone being employed as a lever, the head was, without much difficulty, conveyed upwards into the glenoid cavity."

36. *Extirpation of an Ossified Septum of the Corpora Cavernosa Penis.*—Dr. M'Clellan has lately extirpated the septum of the cavernous portion of the penis, which was completely ossified, rendering micturition difficult, causing, during erection, an incurvation of the penis, with concavity upwards, and preventing all sexual intercourse.—*Philad. Monthly Journal, for Nov.*

37. *Aneurism by Anastomosis.*—Dr. M'Clellan, early in November, secured the right carotid artery, in a child, aged *seven months*, for an aneurism by anastomosis occupying almost entirely the right side of the face, partly closing the right eye, and overlapping the nose. The tumour became less tense, and more pale, and the pulsation on that side of the face entirely ceased.—*Ibid.*

38. *Mydriasis, Hemeralopia, &c.*—Our colleague, Dr. La Roche, who, as already intimated, is travelling in Europe, has effected an exchange of our Journal with the Ephemerides Médicales of Montpellier. The numbers of this year (1827) have been received, and contain several valuable articles, some of which are contributed by the distinguished professors of the ancient and venerable school of Montpellier; an institution, which, amidst all the rivalry of modern times, and, apparently, in a disadvantageous position, maintains its reputation for science, and keeps pace with the rapid improvements of the day. This fact is evinced by the Journals before us; and we shall henceforth inform our readers of the labours of the distinguished gentlemen of the Southern School of France.

In the February number of the above work, we observe a strong recommendation, by M. Serre, physician at Uzes, of caustics, in dilatation of the pupils of the eye, with more or less depravation of vision, provided there is no alteration of structure, but a mere læsion of function. It is well known, that such cases are tedious, and often intractable; but M. Serre asserts, from much experience, that caustics, particularly the lunar caustic, applied to the cornea, operate at once in effecting a contraction of the pupil, and that this contraction is permanent. This observation, he says, applies to those cases which are supposed to depend on irritations of distant organs, as from disorders of the stomach, intestinal worms, &c.; even where such irritations have not been subdued.

He recommends, for the advantageous employment of the lunar caustic, that it should be solid, and nicely pencilled: that it be applied to the cornea in preference to the sclerotica, as the former sympathizes more readily with the iris; that the eschar be made at the circumference of the cornea, as thus no immediate obstruction is made to vision, and as the effect of the remedy is more prompt; that the cauterizations be superficial, extending one or two lines, and repeated two or three times round the edges of the cornea; that the smarting should be considerable, and that it should be followed by a slight injection of the conjunctiva, which is almost a certain indication of success; and, finally, to maintain the irritation excited by the caustic, that the vapour of equal parts of the aquæ ammoniæ and ether, be applied to the eye. There is no danger from the caustic, the pain is tolerable, the inflammation trifling, and the superficial eschar falls at the end of forty-eight hours, very rarely remaining to the fourth day, and always leaving the cornea transparent.

Four cases are given: the *first* of a female child, æt. ten years, with hemeralopia for two months; could see a little during the day; after sun-set, was quite blind; supposed to depend on worms. The iris was dilated to a mere ring: a slight ulcer existed at the edge of the cornea of the right eye; which was touched with lunar caustic on the first of November, 1825. The next day, the child stated that she saw better on the preceding evening: the iris was now contracted and sensible to light; the left pupil remaining dilated: the operation was performed on the left eye; there resulted *an immediate contraction of the pupil, and clear vision the same evening.* In two days after, the cornea throughout was completely transparent, and the patient perfectly well. A disposition to return was perceived at the end of a month; the cure was rendered permanent by the re-application of the caustic.

The *second case* was a soldier, aged forty years, also with hemeralopia; pupils dilated and immoveable. The caustic was applied three times, successively, on the 10th, 12th and 14th November; at the last operation, the vegetable caustic was used. The pupil immediately contracted, and became susceptible to light. The eschars separated on the 15th, the patient's vision being perfect.

In the *third case*, the disease existed only in the right eye, and appeared two months after a blow on the orbit. The pupil had a slight irregularity, was dilated and insensible to light; vision in this eye very imperfect. The lunar caustic was applied but once. Next day, pupil was greatly contracted, and eye painfully susceptible to light. On the sixth day, no mark of irritation, no eschar was susceptible; the patient has enjoyed since that period, (March, 1826,) vision with both eyes.

The *fourth case* was an individual liable to head-aches. On the 15th of August, 1826, the sight of the right eye was much impaired; pupil dilated and immoveable; the upper lid was also paralytic, falling over the eye. The lunar caustic was applied to four points in the circumference of the cornea; the pupil immediately contracted: the ammoniacal and ethereal vapours were directed, and in three days vision was restored, and the eye-lid had recovered its powers. The patient remained well.

39. *Fracture of the Humerus, by Muscular Contraction.*—M. LARREY and M. J. CLOQUET, reported to the Section of Surgery, the case of a soldier, whose arm was fractured by muscular contraction, while wrestling with one of his comrades. M. LARREY has only seen one similar case; which occurred in a female, who, descending from a carriage, and perceiving the steps were breaking down, powerfully grasped one of the handles of the vehicle, and fractured the humerus, immediately above the insertion of the deltoid muscle.—*Arch. Général. Sep.*

40. *Lithotomy.*—Some comparative trials have lately been made, at the Hotel Dieu, by MM. DUPUYTREN, SANSON, and BRESCHET, on some of the various modes of operating for the stone. Of twenty-six calculous patients, the bilateral operation was performed by DUPUYTREN on twelve; the lateral operation, by BRESCHET, on eight; and the recto-vesical operation, by SANSON, on six. Of the twelve DUPUYTREN lost none; BRESCHET lost two of the eight; and SANSON one of the six.—*Jour. Univer. July.*

41. *New Mode of Dressing Ulcers.*—In the Journ. Général, for August, is published a paper, read before the Royal Academy of Medicine, by M. REVEILLE PARISET; in which the author recommends thin sheets of lead as a dressing for ulcers. "The advantages which this method possesses, appear incontestible; being fully tested by an experience of several years. Simplicity, quickness in applying the dressing, cleanliness, the rapid formation of a cicatrix, solid and never injured by accidental tearing, so common under ordinary dressings, the intervals of dressing being prolonged without inconvenience, the complete abandonment of all oily substances during the formation of the cicatrix, the certainty of avoiding one cause of hospital gangrene, and economy, so important in armies, &c., are some

of the results of this new method." To which may be added, the effect of moderate and uniform compression, by increasing, in some slight degree, the thickness of the leaves or sheets of lead. M. **Pariset** recommends this practice in all healing ulcers; in large superficial ulcers from burns it is very valuable; as also in the irritable ulcers from blisters, especially when frequent dressing is painful and injurious, in those often seen on the neck, and the tibia, ancles, tendo achillis, &c., in ulcers from erysipelas, and in those bad sores often observed in œdematous limbs, &c. &c. The cleanliness of this practice, compared with that embracing the use of lint, ointments, &c. is sufficient to recommend its adoption, particularly in hospital practice, even if its other reputed advantages should be found to be overrated.

42. *Excision of a Portion of the Humerus.*—In the Arch. Générales for August, is detailed the case of a child, three years old, long the subject of rickets, and which, in January 1827, had a "cold abscess" near the head of the left os humeri. The abscess was opened, (Feb. 14th,) part of the bone was found necrosed, and, protruding through the wound, could not be reduced. This portion was part of the body of the humerus, separated from its superior epiphysis. On the 8th of March, it was removed by means of a saw. From the restlessness of the child, the end of the bone protruded a second time, and was with difficulty reduced, and on a third recurrence of the accident, the surgeon, M. **Pommerais**, sawed off another portion of the bone, about one inch in length. The recovery, although retarded by a small exfoliation, was completed by the end of April, so that *all the motions of the arm are preserved:* the child can raise its arm to the head, and move it in every direction, as if the humerus had not been diseased. A slight shortening has ensued.

43. *Rupture of the Bladder.*—M. **Cloquet** reported to the Royal Academy of Medicine, the case of a man, who, in wrestling, received a blow from the knee of his antagonist, immediately above the pubis. Severe pain ensued, with suppression of urine; the catheter brought away only a little bloody fluid. The patient survived to the 9th day, with all the symptoms of intense peritonitis. Dissection revealed a fissure at the fundus of the bladder, and the cavity of the peritoneum inflamed and filled with urine.—*Arch. Gen. July.*

44. *Empyema with Pneumo-Thorax.*—In the October number of the Edinburgh Medical and Surgical Journal, Dr. **Duncan**, jr. has reported a series of cases and dissections, illustrative of the nature and consequences of empyema. We have not room for an analysis of this paper, which evinces great attention to the various and obscure diagnostic marks of this affection, and the value, approaching to certainty, of auscultation and the stethoscope, in detecting the effusion of pus, air, &c. Some of these patients recovered by the operation of paracentesis thoracis; in some, dissection revealed great disease of the lungs, with the inflammatory affection of the pleura; in others, there were fistulous communications between the bronchia and pleura, by which air with pus, &c. was effused; while in many, the pleura seemed alone diseased; this membrane being covered with a thick layer of coagulable lymph, which lymph seemed to bind down the contracted lung, so as to prevent any subsequent dilatation. This lymph, Dr. D. believes, becomes organized, and secretes the purulent fluid, for this membrane completely covers the whole pleura. It appears also capable of ulceration. These remarks we believe correct, for we have, for some time past, doubted whether serous membranes ever secrete pus.

45. *Dangerous Hæmorrhage from Varicose Veins.*—In the Journ. Général for August, M. Gendrin has exemplified, by the detail of some interesting cases, the danger which occasionally results from the rupture of varicose veins; the hæmorrhage being often more profuse than other venous discharges, and sometimes proving fatal. This peculiarity he accounts for, by observing, that the blood, owing to the distension of the vessel, and the consequent inefficacy of the valves, flows readily from the upper portions of the vein, and hence from the iliac veins, vena cava, &c. Hence, he recommends such hæmorrhages to be treated, like arterial bleedings, by the tourniquet above the ruptured part of the vessel, and afterwards by regular compression.

46. *Amputation of the Neck of the Uterus.*—M. Lisfranc has performed this operation on twenty-two females; two of these have died; two are now convalescent. Of the two fatal cases, one individual had a return of the complaint at the expiration of three months; the other died twenty days after the operation: latent cancers, not detected during life, were found on the vertebral column and in the ovaries. Hence it appears, that eighteen individuals have been benefited by the operation; and two years have already elapsed since several of them submitted to the excision—*Journ. Général, August.*

47. *Osteo-Sarcoma of the Lower Jaw.*—From the Medico-Chirurgical Review, for October, we learn that a man aged sixty-one years, was brought into Bartholomew's Hospital, July 4th, with an osteo-sarcomatous tumour, involving the alveolar processes and part of the base of the lower jaw, from the incisor teeth to the first molar tooth. It consisted of two portions: one, occupying the situation of the gum, was a red, vascular excrescence, softish and moveable; the other, resting firmly on the bone, and identified with it, was white and cartilaginous. The teeth were quite loose. Mr. Lawrence advised the removal of a portion of the lower jaw with the tumour, to which the patient would not assent. Mr. L. then, on the 13th of July, having extracted the loose teeth, completely dissected away the vascular excrescence and its cartilaginous base, leaving a semicircular gap in the bone, extending nearly to its basis. The substance of the bone had been converted into a tumour, of a cartilaginous consistence, with numerous small bony spiculæ projecting into it.

July 19th. No bad symptoms; wound has a healthy character.

August 10th. The wound has healed, and the parts lately occupied by the tumour were perfectly healthy.

It will be interesting to know the sequel of this case; and to determine, if possible, how far a similar operation could be substituted for the horrible resource of amputation of the jaw, now so frequently resorted to.

48. *Strictures of the Rectum.*—Mr. C. Bell, in his late lectures at the College of Surgeons, (Lancet, Nos. 205—6.) has divided strictures of the rectum into *four varieties*. The *first*, is the contraction of the integuments around the anus, similar to that observed around the mouth. The integuments lose their elasticity, become firm, and so thickened, that a probe can hardly be introduced without great suffering. In this variety only, is the *knife* to be employed. The *second* variety is consequent on piles. Distension of the hemorrhoidal vessels produces inflammation, followed by effusion of lymph, loss of elasticity, and contraction. The *third* species, is a scirrhus, taking place at the margin of the inner sphincter, and occasioned by habitual constipation, where a fold of the gut is forced through the sphincter by great straining. The *fourth* kind, is a cancerous disease, often

confounded with the third variety, beginning in the glandular texture of the part, and resembles the scirrhous contraction of the pharynx. It is aggravated by injudicious interference. Obstruction to the fæces may also arise from "a bagginess within the rectum," and also by a sudden turning or twisting of the rectum, caused by constipation or straining.

Mr. Bell advises regulation of the bowels, so that one copious evacuation be daily procured, especially by glysters: a linseed enema at night is useful, and, in some cases, bougies; but these require great care, as they are very often injurious, aggravating the disease, and giving rise to peritoneal inflammation and *death.—Medico-Chirurgical Review, October*, 1827.

49. *Peculiar Disease of the Lower Jaw.*—In July last, Dr. Chambers, proprietor of the celebrated remedy for intemperance, died in New-York. His disease was a peculiar affection of the lower jaw, on the right side, causing intense pain, delirium, and, eventually, death; with little or no fever, swelling, soreness, or other inflammatory symptoms. On a *post mortem* examination, the lower jaw on the right side was found dead, and denuded of its periosteum, from the root of the coronoid process to the posterior bicuspid tooth. There were some purulent effusions, and the adjacent parts were greatly diseased, particularly the masseter muscle. The fluids were so acrid, as to act on the instruments like an acid. The record of this case, is made by Dr. John Augustine Smith, Professor of Anatomy in the University of the State of New-York.—*New York Med. and Phys. Journ. No.* 23.

50. *Urethro-tome.*—In the October No. of the London Med. and Phys. Jour. is a communication from a Mr. Stafford, *dated Aug.* 13, 1827, recommending a stilette with a lancet point, and concealed in a catheter, for the division of old strictures—a practice instituted some thirty years since in this city, by Dr. Physick, and which has long been acted on here, and in France and Germany, under various modifications. The great objection is the danger of making a false passage, especially in the hands of the inexperienced: to obviate this objection, a very ingenious contrivance has been suggested by a student of medicine in this city, Mr. Chew; a drawing and description of which we hope to present in our next number.

51. *Moxa.*—In the same number of the London Jour. Mr. Boyle records three cases of disease treated with the moxa. The first was a peculiar affection of the leg, (apparently a neuralgia,) of two years' standing, which had resisted every variety of treatment, internal and external, including blisters, caustics, and incisions. It was successfully managed by two applications of the moxa; the first affording immediate relief to the severe pain, &c.

The 2nd and 3d cases were contracted knee joints, one of five years', the other of sixteen years' duration. They were successfully treated with the moxa, assisted, however, by mechanical contrivances, for the gradual extension of the limbs.

52. *Puncture of the Bladder above the Pubis.*—(Medico-Chirurg. Rev. Oct.) J. Dainton, æt. 48, was admitted into Bartholomew's Hospital, June 21, not having passed any urine since the 17th inst. in consequence of a strictured urethra. He was copiously bled and purged, and frequently put into a warm bath, with partial advantage, small portions of urine passing per urethram. Symptoms of distension of the bladder, with pain and uneasiness, however, increasing, and the viscus *apparently* extending above the umbilicus, Mr. Lawrence punctured it with a

trocar. Only a pint of high-coloured urine escaped: a catheter was introduced through the wound: great relief was afforded: small quantities of urine were discharged through the urethra, and none through the catheter, which was therefore withdrawn on the 25th. On the 26th, the bladder was again punctured above the pubis; *no urine followed:* on the 27th, a small stream of urine came per urethram; after which the patient continued to improve under the antiphlogistic treatment. July 16, left the hospital: stricture in urethra remaining.

53. *Empyema.*—In the Aug. No. of the Med. Repos. a case of empyema in the left side of the thorax is related; resulting, in the course of 7 or 8 months, from repeated pulmonary affections. The difficulty of breathing, evidence of the effusion, appeared to be mistaken by the surgeon as indicative of inflammatory congestion; as he speaks of bleeding being indispensable when the patient had no fever, when the pulse was quick and undulating, and the system in a leuco-phlegmatic condition. A painful elevation under the left mamma appeared before death, in which fluctuation was perceptible: "*a lancet was introduced, but no matter escaped.*"!!

Dissection manifested that the pleura contained twenty-seven pints of fœtid cream-like pus, besides several pounds that had accidentally escaped during the examination. The heart was completely pushed into the right side of the chest; no part of it being on the left of the median line: the diaphragm on the left side formed a projecting tumour in the abdomen, pushing the stomach and liver as low as the umbilicus. The lung appeared to be nearly destroyed; there was merely a condensed substance at its root, where the branching off of the pulmonary artery took place. It was evident, that the tumour under the mamma resulted from the purulent effusion in the thorax, as an instrument passed into the opening made before death, gave vent to a large quantity of matter. The case occurred at a military hospital.

We condense the record given, to show what derangements vital organs will occasionally tolerate almost with impunity; what imperfection attended the diagnosis, and of course, how improper the treatment, from mere inattention to, or ignorance of the common signs of empyema, but especially, of the proper use of the stethoscope, by which the disease might have been timely detected, and paracentesis thoracis resorted to with a prospect of success. Vide former Nos. of this Journal, article Empyema.

54. *Phlebitis.*—In the Oct. No. of the Medico-Chirurg. Rev. are recorded three cases of inflammation of veins, consequent on venesection, in which suppuration from the internal lining membrane ensued: pus was also found in the cellular tissue surrounding the vessels. In one, the basilic vein, from the elbow to the axilla, was found filled with pus: the axillary vein was occupied by a coagulum, not adhering very intimately to the coats: the internal surface of the basilic vein was thickened, and had a rough appearance. In the other two, portions of the vein were obliterated, and abscesses were formed in other parts: death in all seemed to be induced by the severe inflammatory fever, and by inflammations of internal serous membranes succeeding the inflammation of the vein. Dr. PHYSICK's practice of employing blisters, which in this country has been very beneficial, was not adopted by the surgeon. It is recommended, however, by the reviewer.

55. *Spasmodic Strictures.*—M. DUPUYTREN has lately recommended, that when, in strictures of the urethra, the passage of the bougie is ar-

rested by a spasmodic or vital contraction of the canal, &c. the point of the instrument should be pressed moderately, but steadily, on the strictured portion. In this way the contraction often yields, and the instrument will penetrate to the bladder. This practice, termed by DUPUYTREN *dilatation vitale,* as distinguished from mere mechanical distension, has been long practised in this country with marked advantage. From the May No. of the Ephemerides Med. de Montpellier, we learn, that in similar cases, professor LALLEMAND has obtained a success as astonishing as favourable, by pushing down on the stricture a paste composed of the acetate of morphine, (half a grain to one grain,) incorporated with fat. It is applied by means of a canula, the paste being forced down upon the stricture by means of a stilette acting as a piston.

VII. MIDWIFERY.

56. *The Cæsarian Operation, successfully performed twice on the same Individual.*—A female, aged thirty-six years, after the birth of her sixth child, suffered from a disease of her bones, so that the two ischia were separated only the width of two fingers. Becoming pregnant, the cæsarian operation was performed; the child was removed in a state of asphyxia, but soon revived. The mother recovered after some dangerous inflammatory symptoms. The lochiæ appeared per vaginam. "Notwithstanding the injunctions of Dr. SCHENK, (her surgeon,) this female became pregnant the eighth time, in December, 1824, and a second cæsarian operation was performed with the same success."—*Arch. Générales, Aug. from Siebold's Jour.*, 1826.

57. *Vomiting in Pregnancy.*—M. DANCE, from many facts, is induced to believe, that the obstinate vomiting which often continues beyond the ordinary period in pregnancy, indicates actual inflammation in the uterus, and in the membrana decidua. These protracted vomitings should therefore be attacked by decided antiphlogistic remedies, directed to the uterus, and not to the stomach, which is only sympathetically disturbed. There is no danger of thus exciting an abortion.—*Journ. Univer., Aug.*

58. *Hysterotomy per Vaginam.*—In the *Annali Univ. di Med. Milano,* Sept., 1827, Dr. SOLERA, relates the case of a female, æt. thirty-eight, of a good constitution, seized with labour pains, at the full period of utero-gestation, on the 2nd day of May, 1825. On examination, no trace of the os uteri could be discovered; it was completely *obliterated.* Careful and repeated observation confirmed this idea, and proved, that no obliquity of the uterus existed, and that the head of the fœtus could not be felt above the superor strait. The patient was seen by Drs. BALLARDI, VILLANI, CRISTOFORI, FORTUORI, and OTTONI; and all recommended the section of the uterus from the vagina, in preference to the usual cæsarian operation. (Gastro-hysterotomy.) The operation was performed on the 4th of May, at 3 P. M., by successive careful incisions with a bistoury, from the vagina, so as to open the cavity of the membranes without injuring the infant. This being accomplished, and the head of the fœtus being forced down by the pains, the case was left to nature. The pains not being sufficiently powerful, the child was delivered artificially, on the morning of the 5th. It was dead. The mother recovered. The artificial opening, which at first was rather on the right side, was found, thirty days after delivery, nearly in the axis of the cervix uteri.—*Journ. des Progrès. Vol. 5th.*

59. *Premature Labour.*—In Vol. III. p. 408, of this Journal, is reported a case of labour artificially excited, and terminating favourably for mother and child. It occurred in the hospital at Pavia, under the care of Professor BONGIOVANNI. From the Ephemerides de Montpellier, for Sept., 1827, we learn, that another case has occurred at the same hospital, of a ricketty female, aged thirty-five years, supposed to be seven months advanced in pregnancy: the antero-posterior diameter of the pelvis being reduced to two and a half inches. An ineffectual attempt was made to induce labour by the exhibition of ergot; the membranes were then punctured with a trocar. In twenty-four hours labour pains commenced, and in fourteen hours, the labour was completed; the infant was very feeble, only six months, not seven as was believed, and died two hours after its birth. Its length was fourteen inches; weight three pounds and six ounces; the occipito-frontal diameter was three inches; the transverse, or parietal diameter, two inches and one line. The mother had some symptoms of inflammation of the uterus, but recovered so rapidly, that in fifteen days she left the hospital perfectly well.—*Annali Univ., May,* 1827.

60. *Cæsarian Operation.*—The Germans resort to this operation much more frequently than other nations, and, judging from the reports which reach us, with great success. In the September number of the Bulletin Univer., we have two other cases reported as having been performed with safety to mother and infant. One by Dr. LANTZ, on a female, aged thirty-one years; the sacro-pubic diameter of whose pelvis, was but two inches and nine lines. The operation was performed two days after the commencement of labour pains; the strength of the mother being still very good. The success was complete.

The second operation was performed by the celebrated surgeon, Professor GRAEFE. The mother was a rachitic female, aged thirty years; all the diameters of the superior strait were unnatural, the sacro-pubic was reduced to two inches and three lines. The operation was performed after the uterine contractions had existed fifty hours; and lasted but three minutes and a half. The mother left the hospital well, in two months.

Professor GRAEFE thinks he has diminished the dangers of this operation by his manner of treatment; of which we give the following summary. The operation should be performed, if possible, at the full period of utero-gestation, and at the time labour has commenced; the incision should be made through the linea alba, below the umbilicus, and should extend five inches; the incision into the uterus should be four inches and six lines in length. To prevent the escape of the intestines through the first or external wound, Dr. G. advises the employment of large pieces of sponge prepared with wax, each being one foot long, six inches broad, and nearly three inches in thickness. Three such pieces are necessary for one operation. They should be applied to the abdomen, so as to leave for the incision, a space eight inches long, by three or four wide, and are to be retained by two or three assistants, who should make moderate pressure with the hand; care being previously taken, that every portion of intestine has been removed from the place reserved for the incisions. Pressure on the sponges will then keep the bowels at a distance, and prevent their escape. If the placenta be not completely detached, it should be removed by the surgeon, in preference to its remaining in the uterus. The edges of the wound in the abdomen, should be kept in contact by sutures made with very soft ribands, eighteen lines in width, and with flat needles with two cutting edges. Three sutures, thus effected, are as advantageous, as six others with a simple thread. Further to secure the lips of the wound, four or five adhesive straps are necessary; each one being eighteen lines in breadth, and long enough to pass once and a half round the abdomen; the middle being applied to the back, and the extremities crossing in front, above, below, and between the sutures. After the operation, the mother demands rest, and sedatives, as laurel water, the extract of henbane, or the infusion of belladonna, to be administered as enemata. When inflammation ensues, the loss of blood is the best remedy; salts and calomel do not answer. If nervous symptoms arise, opium, with the ethers, in small and repeated doses, are useful, while attention is to be paid to the lochial discharge and the mammary secretion. In the management of the wound, the sutures and the kind of suppuration demand attention, especially at the inferior portion of the wound. The adhesive plasters ought to be continued for a long time.

VIII. CHEMISTRY AND PHARMACY.

61. *Continuation of Dr. Wœhler's Experiments on the Passage of Substances into the Urine.*

ORGANIC COLOURING MATTERS. *Indigo.*—MM. TIEDEMANN and GMELIN found the urine tinged of a greenish-blue, in a horse that had taken, three hours before, a pound of the solution of indigo, in sulphuric acid, neutralized by potassa.

Rhubarb.—It has been long known, that the internal exhibition of rhubarb gives a yellow tinge to the urine, and that, in this state, it becomes red by the addition of potassa. TIEDEMANN and GMELIN observed this in a horse, that had swallowed six ounces of the tincture of rhubarb. HOME remarked the passage of rhubarb into the urine in the space of seventeen minutes. WESTRUMB detected rhubarb in his own urine, at the end of ten minutes after it was swallowed. According to BRADNER STUART, the urine is slightly reddened by potassa, after a general bath of the infusion of rhubarb.

Beets.—According to BARKHAUSEN and GRUITHUISEN, this root communicates a red colour to the urine.

Root of the Great Celandine.—This root renders the urine much more yellow than natural.

Damson Plum.—A case is recorded of a female, whose urine was always as black as ink, after eating this fruit.

Gamboge.—A tincture, made from an ounce of this gum, increased considerably the yellow colour of the urine in a horse.

Madder.—The continued use of this substance tinges the urine of a red colour. The same result takes place, when it is applied to the skin, in the form of a bath. Its presence in the secretion is easily detected by the addition of potassa.

ORGANIC ODOROUS MATTERS. *Oil of Turpentine.*—No fact is better determined, than that the internal and external use of this oil, as well as the inhalation of its vapour, very quickly communicates a violet odour to the urine. The peculiar character of the odour is not explained; for, on mixing oil of turpentine with ordinary urine, the violet smell is not developed. Juniper berries communicate a similar odour to the urine.

Valerian—Castor.—According to JOHN, the urine of persons, employing valerian, acquires the odour of myrrh; according to Dr. WŒHLER, a smell, sui generis, difficult to describe. Castor also communicates the myrrh odour.

Viola Tricolor.—The infusion of this plant is esteemed, by the continental physicians, to be very useful as a remedy in crusta lactea of infants. It communicates a peculiar odour to the urine, which has been compared to the smell of the urine of cats.

Narcotic Principle. *Agaricus Muscarius.*—Dr. **Wœhler** conceives, that the narcotic principle, contained in the agaricus muscarius of Kamtschatka, must be classed amongst the substances, which find their way into the urine. The Kamtschatdales and Korecks, prepare, from this agaric, a kind of intoxicating drink. But what is very remarkable is, that the urine of those who are intoxicated by it, acquires, and preserves for a long time, a narcotic property, which is even stronger than that of the primitive preparation. The people, accordingly, preserve their urine after eating the agaric, for the purpose of being used as an intoxicating drink.

Animal Substances. *Albumen.*—This substance is found very frequently in the urine of dropsical patients. The therapeutical deductions to be drawn from its presence, have been carefully studied by Dr. **Blackall** and Dr. **Prout**; to whose works we refer the reader, or to a review of the work of the latter, contained in Vol. ii. p. 125. of this Journal.

Casein.—**Chatelain** reports the case of a Creole, who voided a lactescent urine, the appearance being derived from the presence of casein.

Chyle.—Pus.—Blood.—Bile.—It is well known, that all these substances are occasionally found in the urine.

Matters whose passage into the urine is considered doubtful. *Carbonic Acid.*—MM. **Vogel** and **Prout** were the first to announce, that carbonic acid was a constituent in urine. This acid appears to exist in it, in the same proportion as in blood. We have frequent examples on record, of urines which contained an excess of carbonic acid, after the use of Seltzer water. The same fact has been observed by **Brande**, who obtained, by means of the air pump, from urine voided an hour after the ingestion of carbonic acid water, a large quantity of this acid. Dr. **Marcet**, however, failed in this experiment, and thinks that the passage of carbonic acid into the urine is not probable. Dr. **Wœhler** has made some experiments on himself, with a view to determine this point. After drinking plentifully of carbonic acid water, he was not able to detect any redundancy of this acid in his urine. He is, therefore, disposed to admit, with **Marcet**, that carbonic acid, introduced into the animal economy, does not enter the urine; that this secretion never contains a greater amount of the acid in question, than the blood itself; and that all excess of this gas, which may be introduced into the system, is eliminated by the lungs and skin.

Iron.—Dr. **Wœhler** has made many experiments on dogs, to determine the question of the passage of iron into the urine. He employed various preparations of the metal; but they were uniformly rejected by vomiting, unless when taken in very small quantity, and, in this latter case, no iron could be detected in the urine. Nevertheless, the experiments and observations of a number of writers prove incontestibly that iron is occasionally found in the urine.

Lead—Bismuth.—**Tiedemann** and **Gmelin** were in no instance able to detect lead in the urine of dogs, to which they had given large doses of acetate of lead. Dr. **Wœhler** has made the same observation with respect to bismuth.

Mercury.—**Tiedemann** and **Gmelin** gave three drachms of protacetate of mercury to a horse, and to another, half an ounce of bicyanide of mercury; but could detect no trace of the metal in their urine. Nevertheless, the experiments of Dr. **Cantu** prove, that mercury may pass into the urine. Dr. C. collected sixty pounds of urine from syphilitic patients, and obtained from the sediment more than twenty grains of mercury.

Camphor, Alcohol, Musk, &c.—It may be asserted confidently, that camphor is not excreted by the urinary passages, but by the lungs and skin.

This is demonstrated both by the experiments of TIEDEMANN and GMELIN, and those of SEILER and FICINUS. Dr. WŒHLER caused a dog to swallow a drachm of camphor, without communicating the least odour to the urine. According to the same experimenters, alcohol, musk, and the animal oil of DIPPEL do not pass into the urine. Dr. WŒHLER was unable to detect the odour of sulphuric ether in the urine of a man affected with tænia, who took, daily, half an ounce of this ether. Neither are the colouring principles of cochineal, of alkanet, or of litmus, to be detected in the urine. Dr. WŒHLER gave two drachms of the tincture of litmus to a dog, whose urine, four hours afterwards, afforded no trace of the colouring matter, upon the addition either of an acid or alkali.

PHYSIOLOGICAL DEDUCTIONS.—From the experiments and observations which have been related, the following deductions may be drawn:

I. Iron, lead, alcohol, sulphuric ether, camphor, the animal oil of Dippel, musk, and the colouring principles of cochineal, litmus, and alkanet do not pass into the urine. It would also appear proved, that when liquids containing a good deal of carbonic acid are swallowed, the quantity of this acid naturally existing in the urine is not increased.

II. The following substances are found in the urine in a decomposed state; the combinations of potassa and soda, with the tartaric, malic, and acetic acids, transformed into alkaline carbonates; and the hydrosulphate of potassa, converted in part into sulphate of potassa.

III. The substances, which form new combinations with substances belonging to the animal body, and are excreted by the kidneys in that state, are, sulphur, which becomes sulphuric and hydrosulphuric acid; iodine, which is evacuated in the form of an hydriodate; and the oxalic, tartaric, gallic, succinic and benzoic acids, which are found in the urine, combined with an alkali.

IV. The substances which pass into the urine without change, are, the carbonate, chlorate, nitrate, and ferrocyanate of potassa; the subborate of soda; the muriate of baryta; the silicate of potassa; the tartrate of nickel and potassa; many colouring principles, such as indigo dissolved in sulphuric acid, gamboge, rhubarb, madder, beets, &c.; many odorous principles, but for the most part, with a modification of odour, as for example, oil of turpentine, juniper berries, valerian, castor, &c. and, lastly, the narcotic principle of the agaricus muscarius of Kamtschatka.

I. *As to the substances which do not pass into the urine.*—Their exclusion may be attributed to one or other of the following circumstances:

1. Certain substances may be so destroyed in the processes of chylification and sanguification, as not to appear even in a modified form in the urine. Many of the colouring principles may be in this relation to the animal economy.

2. Other substances, harmonizing more completely with the animal organization, may be assimilated, and employed in nutrition.

3. Others again may be eliminated by other emunctories; as, for example, camphor, and many other odorous principles, which pass off by the skin and lungs.

4. Finally, other substances, upon entering the intestinal canal, may pass into an insoluble state, and thereby become unfit for absorption. This, probably, is the case with tannin, and with the salts of lead, iron, and some other metals.

II. *Substances which pass into the urine in a decomposed state.* The circumstance of decomposition may be attributed to two causes, diametrically opposite. 1st, a deoxidizing power; and, 2ndly, an oxidizing power in the animal substance. Thus the hydrosulphate of potassa becomes the sulphate by an oxidizing process, probably occurring in the lungs.

The conversion of vegetable alkaline salts into carbonates, occurs, most probably, during their presence in the blood; and appears to be effected in the lungs, by the oxygen of the inspired air.

III. Substances which form new combinations, before they pass into the urine.—It has been stated that several of the vegetable acids pass into the urine, only by forming a combination with some base, in the course of the circulation. Dr. **Wœhler** has found difficulty in making experiments to elucidate this point; but he states that **Berzelius** gave to a patient, whose urine was alkaline, the acetic, sulphuric, and phosphoric acids, without rendering the secretion acid; but when the phosphoric acid induced catharsis, then the urine became acid. **Magendie** has made the same remark. Dr. **Wœhler** adds, that, from the above observations, as well as those which he has himself made, he is inclined to the opinion, that acids, taken into the stomach, do not pass into the urine, either in the free state, or as supersalts, until they have been taken in quantities so considerable, as to be sufficient to neutralize the salifiable bases, contained in the blood and other parts of the body. Accordingly, it is not to be inferred that an acid has not passed into the urine, because this secretion does not exhibit more than its ordinary acidity.

IV. Substances which pass into the urine without change.—Dr. **Wœhler** considers these substances as the true and invariable diuretics; that is, substances which necessarily augment the secretion of urine, by the stimulation which they afford, while passing through the kidneys. Substances which are diuretic under particular circumstances only, Dr. W. would exclude from the class of diuretics; such as bark, digitalis, &c.; for otherwise, every substance in the materia medica, might in its turn be called a diuretic. Water alone forms ninety-three per cent. of urine. It may be considered, not only in the light of a menstruum for the other ingredients of the urine, but as a principal product of the function of the kidneys, which embrace in their office the removal of any excess of watery particles. This function holds also an intimate relation with those organs destined to secrete the humours, as the lungs, skin, and digestive canal. In cases of profuse sweat or diarrhœa, water is abundantly evacuated with these excretions, and the urine becomes diminished and high-coloured, while all its principles, except water, are in relative excess. Physicians should be on their guard, not to draw erroneous conclusions from this change, which depends entirely on the deficiency of water.

Prevost and **Dumas**, having found a considerable quantity of urea in the blood of dogs, cats, and rabbits, after the extirpation of the kidneys, have been led to conclude, that urea, as well as the other immediate principles of the urine, exists in the blood. They cite, in support of their opinion, the phenomena of arthritic concretions, formed as they are of urate of soda, and the intimate relation which subsists between arthritis and the morbid production of uric acid. The experimental results, of P. and D., have been confirmed by **Segalas** and **Vauquelin**.

Most of the substances contained in the urine possess a diuretic property. The Arabians have long been in the habit of employing the urine of the sheep and ass as a diuretic remedy; and the Italian physicians have extolled the urine of the calf, as an excellent stimulant to the urinary secretion. According to the experiments of **Segalas** and **Vauquelin**, the diuretic property of urea, taken internally, or injected into the veins, is so great, that they propose to class this substance among the diuretics.

Therapeutical Deductions.—The property of the vegetable alkaline salts, of being converted into alkaline carbonates in the course of the circulation, and of appearing in this form in the urine, naturally suggests the idea of using the vegetable salts, instead of the carbonates, in the uric acid diathesis. The advantage we might hope from the vegetable alkaline salts, over the carbonates, would consist in the ability to continue their use for a much longer time, without weakening the digestive organs. Besides, they are much more agreeable to the taste; and being a numerous class of salts, the practitioner has the choice of a number of remedies of equal efficacy.

Without pretending to advocate the opinion, that the good effects of alkaline carbonates in the uric acid diathesis, depend exclusively on chemical principles, Dr. Wœhler, nevertheless, makes the remark, that urine, rendered alkaline by the addition of three drachms of acetate of soda, not merely dissolved uric acid in powder very readily, but acted, in a few days, on large fragments of uric acid calculus, to such an extent as sensibly to corrode their surface. It has generally been supposed that uric acid was insoluble in the alkaline carbonates, but this is a mistake.

From what has been said, it, therefore, appears, that the salts which may be substituted for the alkaline carbonates, in the uric acid diathesis, are, the bitartrate of potassa, (cream of tartar;) tartrate of potassa; borotartrate of potassa and soda, (soluble cream of tartar); the tartrate of potassa and soda, (Rochelle salt;) and the acetates and citrates of potassa and of soda: and as it has been proved, that fruits containing an alkaline vegetable salt, such as cherries, strawberries, &c. have the property of rendering the urine alkaline, these also may be employed in the same diathesis.

The above is not a matter of mere inference, but of fact. Professor Chelius advised a patient, who had for a long time passed the uric acid gravel, to eat daily a large quantity of cherries: the gravel quickly disappeared, and the urine became natural. After the cherry season had passed, the patient substituted with the same success, the cream of tartar lemonade. Dr. Wœhler also had occasion to prescribe the bitartrate of potassa to a man, who had for a long time voided small renal calculi of uric acid. The urine soon became limpid; and, the day after the patient commenced the treatment, he passed a renal calculus of considerable size.—*Journal des Progrés des Sciences Médicales*, Vol. II. 1827.

62. *Residuum of Nitre, after Exposure to a red heat.*—In the beginning of the month of May last, Mr. Robert Bridges, Student of Medicine, of this city, made an observation respecting the nature of this residuum, in the laboratory of one of the editors, which deserves to be recorded. Upon pouring water into an iron mercury flask, (which had been used for obtaining oxygen from nitre,) for the purpose of washing it out, this gentleman observed a lively effervescence to occur, which led him to investigate the nature of the gaseous matter evolved. Much to his surprise, he found it to consist of oxygen, of the purity of 95 per cent. as ascertained by the accurate sliding rod eudiometer of Dr. Hare. I urged Mr. B. to pursue the investigation, with a view to ascertain the source of this oxygen, and to publish a note of his results. The same gentleman, while operating as my assistant in the laboratory of the Franklin Institute, about six weeks ago, made the same observation as in the spring; but in this case the oxygen obtained was purer, containing only 1 per cent. of impurity. Upon mentioning these facts, several weeks ago, to Dr. Hare, this chemist immediately gave a rationale, which is evidently the correct one. The residuum, he conceived, must be the peroxide of potassium, which, by the affusion of water, gives off its second dose of oxygen, and becomes converted into hydrate of potassa.

A few days ago Dr. Hare sent me a number of the Annals of Philosophy for April last, by which I find that Mr Bridges's observation has been anticipated by Mr. **Richard Philips**, of London, who gives the same rationale of the fact which occurred to Dr. **Hare**. Notwithstanding this, it is thought proper to publish this note; as serving to confirm the accuracy of independent observations, made in different parts of the world about the same time.

It is suggested by Mr. **Bridges**, that peroxide of potassium obtained in this manner from nitre, would form a good preparation, from which to obtain pure oxygen, without the least trouble to the experimenter.—*Jan.* 9, 1828. F. B.

MISCELLANEOUS.

To Subscribers.—The late appearance of the present number is owing to a series of occurrences, unusual in their kind, and, therefore, little liable to interfere again. To a fire in our printing-office, succeeded a combination of the journeymen to "strike work" for an advance in wages, and, finally, a determination, on the part of the Editors, to insert, by a somewhat longer delay, the valuable Report of a Committee of the Medical Society. These we conceive sufficient causes for a procrastination of fifteen days.

No effort will be spared, in future, to produce the Journal with becoming punctuality.

We beg to call the serious attention of our surgical readers to the interesting remarks of our absent and valued fellow-labourer, Dr. La Roche, now in Europe, upon the operation of M. Civiale. A note to this purport was designed for the proper place, but mislaid, in consequence of the quickness with which we were glad to hurry Dr. L.'s communication to the press. We apprehend that great importance ought to attach to his remarks upon the causes of the failure of this very desirable operation in the United States; both from their abstract weight, and from the peculiar advantages which he possessed, as an eye-witness of Dr. Civiale's proceedings and success.

New Experiments on Poisoned Wounds.—We are informed that Mr. C. W. Pennock, of this city, has performed a series of experiments on poisoned wounds; in which he has found that the pressure of a flat, circular body, *in all instances*, arrested the consequent symptoms with the greatest promptitude, to re-appear when the pressure was interrupted. This fact is worthy the attention of those who are exposed to the bites of rattlesnakes, as well as of physiologists.

Vaccination in North Carolina.—Extract of a letter from Dr. Jos. C. Skinner, of Edenton, N. C., to Dr. William Darrach; dated, Nov. 25, 1827.

The small pox has appeared among us, and continues to spread in the town; but has not, as yet, extended into the country. Vaccination has been generally practiced in the town, but the country people are still opposed to it. The recent proofs of its antivariolous effects have tended to inspire confidence in a great many. We have been, and are still, striving to convince them that the only possible way to arrest the progress of the disease is to resort to this valuable preventive.

Medical Convention in Ohio.—We extract the following interesting article of intelligence from the Cincinnati Saturday Evening Chronicle, handed to us, for the purpose, by a valued friend. The conferences and co-operation of physicians, in every part of our country, always furnish agreeable news.

MEDICAL CONVENTION OF OHIO.

This body, in pursuance of a provision of the law creating it, met at Columbus, on the 10th inst. Twenty out of the twenty-two Medical Districts of the State, were represented. John Woolley, M. D., of this city, was chosen President, and Joseph Flanner, M. D., of Zanesville, Secretary. The proceedings will shortly be published in pamphlet form.

Among other subjects presented for the consideration of the Convention, was that of the Medical College of Ohio. We are informed that a memorial was passed, by a vote nearly unanimous, recommending to the Legislature the appointment of a new board of Trustees for the government of this institution, and a re-organization of its Faculty.

American Journal in the French Language.—Dr. Xavier Tessier, the learned and ingenious editor of the Quebec Medical Journal, has sent us a prospectus of a new and great work, in which the former is to be merged. The *Journal des Sciences Naturelles de l'Amerique du Nord*, is to be published at New York; as a central point to the large amount of French population which exists in Canada, in the United States, and in the West Indies. In the term *Natural Sciences*, Dr. Tessier includes, without any deviation from correctness in diction, the departments of *Medicine, Surgery, Anatomy, Physiology, and Materia Medica;* which he combines with *Botany, Natural History, Chemistry and Mineralogy.* This vast field will require the largest periodical yet addressed to physicians within these states, viz. a volume of 300 pages, quarterly.

Dr. Tessier has it principally in view, in establishing this work, to furnish an account, in the French language, and, therefore, accessible to his countrymen, of the discoveries and other novelties which are accumulating both in the United States and in England; while, at the same time, he supplies his readers with the scientific news of the land of their ancestry, without obliging them to receive it strained through the medium of a foreign language, as is at present the case with most of those settled in America. The work is to contain, first, a collection of Extracts of a scientific nature; next, a series of Analytical Reviews; in the third place, an Original department; and finally, the proceedings of societies, the titles of books, medical biography, and other Miscellaneous matters.

Every lover of science cannot but wish well to Dr. Tessier's noble and useful undertaking.

Price, $6, payable on the delivery of the first and third numbers.

Transylvania Journal of Medicine and the Associate Sciences, edited by John Esten Cooke, M. D. and Charles Wilkins Short, M. D., Professors in Transylvania University. To be published quarterly, in numbers of one hundred and fifty pages.—We have only space to announce this new Journal, and to express our hopes for its success; founded upon the room which exists for it in the Western Country, and the talents of its editors, and the other members of the useful school from which it emanates.

THE

NORTH AMERICAN

Medical and Surgical Journal.

APRIL 1828.

ORIGINAL COMMUNICATIONS.

ARTICLE I.—*Observations on Congenital Club-Foot.* By HENRY NEILL, M.D. Physician Accoucheur to the Alms-House Infirmary.

Read before the Philadelphia College of Physicians.

THE congenital club-foot has deservedly claimed, and has received, the attention of physicians from the earliest period to the present time. On looking back into ancient writers, I was not a little surprised to find that HIPPOCRATES, in his chapter De Articulis, gives such general views respecting the nature of the deformity, and proposes so judicious a plan of treatment as proves that there has been very little improvement in this particular from his day unto the present time.

His general principle is that the congenital club-feet should be reconducted to their proper position by such gentle methods as one would model wax with the hand. His plan was, to have bandages sewed to the outer side of a sole of leather, opposite the little toe, and these brought upwards so as to raise the outer side of the foot, and thus counteract the muscles which had a tendency to draw the foot inward and upward.

So far as has come under my observation, the deformity appears to depend almost always on the relaxation of the muscles and tendons on one side of the foot and leg, and the undue contraction of the other, so as to produce a partial luxation. For in every case which I have seen (with one exception) I could with my hand, restore the foot to its natural position, before the child began to walk. It is also of great importance, that the force applied should be gentle in its action, and the material used pliant in its nature. For when a strong force has been used, with unyielding materials, I have known convulsions produced in the child.

In the writings of those fathers in medicine who immediately succeeded HIPPOCRATES, I have not found any thing on this subject which is worthy of notice. AMBROSE PARE is the next author in whose writings I find any thing relating to this matter. His plan consists of laced half-boots open from the toe upward to the top of the boot and also open at the bottom, through the sole of the boot, as far as the heel. These were to be fitted nicely to the foot and laced up; but I do not see how this could prevent the feet from turning inward.

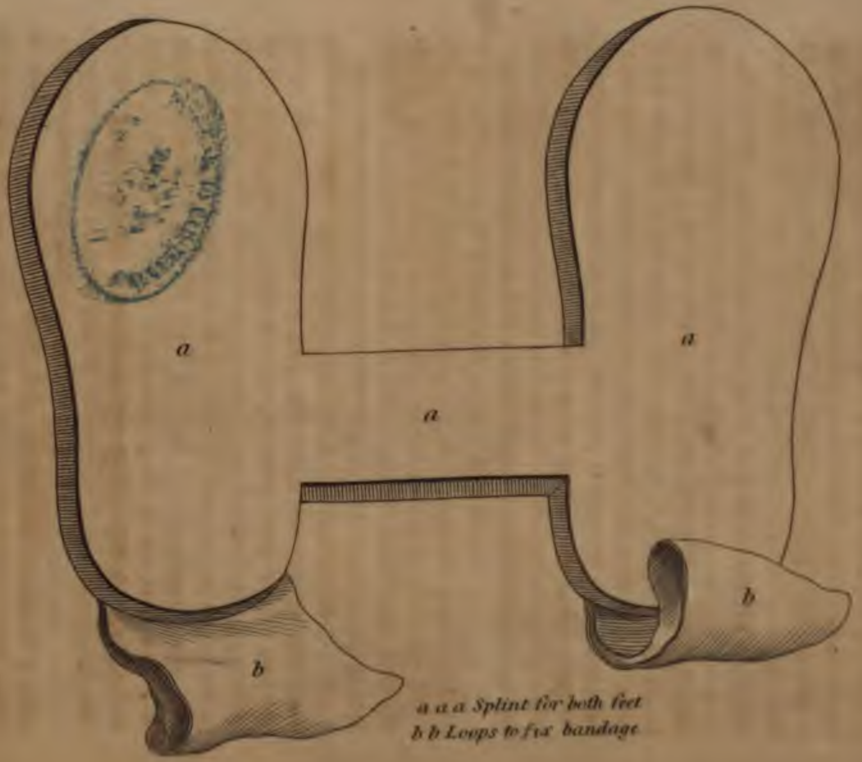
HILDANUS after him presents us with an apparatus which is very different, consisting of a plate of iron or shank, which rises from the side of the heel in the course of the fibula as high as above the knee, with joints at the knee and ankle to allow of walking, being secured at the upper end by a strap and buckle, or a garter.

HEISTER, in his system of surgery, refers to and recommends the instruments used by PARE and HILDANUS. After this the English surgical writers seem to have dropped the disease from their systems.

For the last thirty years the principal instrument which has been in use here is that of SHELDRAKE, an instrument maker of London; and I have no doubt many cures have been performed by it. I also know that it has frequently failed, and that it is very apt to produce great distress to the child by abrasion.

It consists of an iron slipper with an iron shank extending up the side of the leg as far as just below the knee, and secured at the top by a strap and buckle. This is merely a modification of that of HILDANUS, with very little, if any, improvement. In the Dictionnaire de Medecine publishing at this time in Paris, we have the description of an instrument which they call a modification of VENEL's used by M. D'IVERNOIS:—this also differs very little from that of HILDANUS, if I understand the description rightly.

More than twenty years ago Professor SCARPA of Pavia wrote and published a memoir on the congenital club-feet of children. In his book he mentions VENEL's machine, which has already



a a a Splint for both feet
b b Loops to fix bandage

been noticed, and also BRUCKNER's bandage, which, at the same time, he observes is only effectual in very slight deformities. He afterwards proposes a machine of his own invention in which springs are so placed, to act on the foot and leg, as gradually to overcome the deformity. Not having known of any instance in which this has been used, I am unable to judge of its merits. But on viewing the plates it appears more striking as an ingenious piece of mechanism than as a useful instrument.

Of later years, two gentlemen, Mr EARLE of London and Mr COLLES of Dublin, have given us papers and offered machines for the cure of such cases. That of Mr EARLE I suppose will be found too harsh to apply at the tender age of one or two weeks; and that of Mr COLLES has been tried in one instance in this city, and found ineffectual.

These, so far as have come to my knowledge, are the various methods which have been adopted for the relief of this most distressing deformity.

In the year 1813 it was my lot to have a child born with her feet turned inward and upward, so that the great toe was lying nearly on the tibia. As may be supposed, the situation of the child had immediate attention; and SHELDRAKE's apparatus, the only one with which I was then acquainted, was first thought of for trial. A child, at that time under the care of Dr GLENN, late of this city, had this instrument applied. I called to see it, and found it had not the effect of keeping the child's foot in a proper position; it was turned quite inward, and the skin much abraded by the strap and buckle which confined the upper part of the shank; on which being kept perfectly tight all the good effect of the instrument depended.

The mother also informed me that for the first two hours after its application it had the intended effect of keeping the foot straight, but after that time the strap would slip a little, and the least move of that would allow the foot to assume its former mal-position. Another objection was, that at the tender age of from one to four weeks, the limbs of the child would not allow of the application of a strap or band sufficiently tight without producing abrasion and swelling; which would make it necessary to lay the instrument aside for a time, when all that has been gained would probably be lost. I therefore preferred another plan which I had seen, consisting of a pair of laced boots of soft leather, open from the toe to the top of the boot, which had the soles projecting at the heel and toe a little beyond the upper leather, so as to admit a small screw to pass through these projections, by which the feet were secured to a board at a small distance apart, and parallel to each other; and I could gradually turn the toes out as the feet improved. For a little while I thought this would be all that was necessary. But at the early period of one week, when it is of the utmost importance to make the application, the skin is so very tender that abrasion and ulceration will unavoidably take place from the slightest friction, and the feet at that age cannot be so securely fixed in the boot as to prevent all motion. I was consequently under the necessity of giving up this apparatus also.

It then occurred to me, that if I could secure the feet to a splint of a proper shape by bandages, so as to retain them in a suitable position, I should then avoid the abrasion of the skin and thus accomplish my object. I accordingly with my penknife made a splint similar to the one now presented to the college*, on which with a bandage I secured the feet. This had the most beneficial effect, without any of the former inconveniences from abrasion. In three months they were so much restored as to allow a pair of laced boots to be worn, with the occasional application of the splint for a week or two at a time, and at the end of nine months there were not the least remains of deformity. A few cases in which I have used the splint since have increased my confidence in this plan of treatment.

In 1814 a case of club-feet was presented to Dr Hewson. I had the pleasure of putting into his hands the splint which I had used with my child. He applied it to his patient and found it made rapid improvement, but met with considerable inconvenience from the ability of the child to disengage its feet from the bandages, which had also been troublesome to me. He has however suggested a remedy for this, by placing at the heel of the splint a loop of leather, through which the bandage was passed on making the first turn. This improvement has rendered the instrument so manageable, that in a case now under treatment the mother can apply it effectually as often as may be necessary.

His patient was greatly improved in three months, and in several cases he has been completely successful.

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* Vide plate.

ARTICLE II.—*Case of Caries of the Tibia.* Communicated by JOSIAH R. HORN, M.D. of Stantonsburgh, North Carolina.

The subject of the following case was a coloured man, about sixty years of age, who had for many years followed the occupation of a farmer. I could not ascertain precisely the length of time he had been afflicted with an ulcer on the leg; but from the best information, it must have been upwards of twenty years. For a long period it was regarded merely as an indolent ulcer of the soft parts unconnected with any disease of the bone; but for three or four years, it assumed a more serious aspect, as walking became very painful; so much so, as to compel him to lead a sedentary life. He was finally so incapacitated for labour, that his master (for he was a slave), after trying various empirical remedies, and understanding that "I knew something about sore legs," was, in the year 1825, induced to place him under my care. The ulcer at that time was about three inches square, and was situated over the middle and anterior part of the tibia. He complained of a constant twitching sensation, as if a string were tightly drawn over its surface. The ulcer was callous, and very uneven. It was not tender to the touch. The edges were rounded and white. A large quantity of aqueous fluid was constantly secreted, as well as pus; for, on removing the dressing, a dense vapour would immediately arise, and the evaporation was so great, that the ulcer speedily became dry. On examination, the matter adhering to the dressings would, in a few spots, present the appearance of healthy pus; yet, generally, it would appear rather like sanies, tinging the dressings of a dark green or black colour. From these symptoms, a caries of the tibia was strongly suspected; but, as from examination this point could not be possibly ascertained, and as caries, commencing in the hard compact part of the bone, was not to be expected, it was deemed advisable to treat it as a simple indolent ulcer. Escharotics were applied, and afterwards BAYNTON's plan was adopted, assisted by the various stimulating and emollient applications commonly used in such cases. This treatment did not even retard the disease in its slow and almost imperceptible progress. Amputation was then advised, but our patient positively refused to submit to it. I will here remark, that this is the first time I had ever seen an ulcer (not of a specific character) refuse to submit to the judicious application of straps and bandages: I say the *judicious* application of both;

for the loose and inaccurate application of either is equally injurious, as I have often witnessed. The straps, to be really useful, should extend quite around the limb, as originally recommended by Mr BAYNTON.

On the 5th of May last, our patient returned with all the symptoms of his disease aggravated. It was now apparent, that amputation must be submitted to, or death would speedily be the result. He had entirely lost the voluntary use of his limb, and could scarcely bear that others should move it for him. His ulcer was now nearly five inches in extent. In other respects it was as before described. He was much reduced; and a paroxysm of hectic fever appeared every evening. Desirous of preserving the knee joint, and supposing the disease of the bone extended no higher than the external sore, I performed the flap operation; taking off the limb an inch and a half above the lesion of the skin. During the operation, our patient's sufferings were comparatively slight. He did not complain on sawing through the bone, although, as will be seen, the tibia was much diseased at that place. This comparative exemption from pain was attributed to the loss of organization, and the consequent destruction of the nerves of the parts through which the incisions extended.

On dissecting the limb the following circumstances were noted: 1. A considerable quantity of fat beneath the skin, though none in the cellular membrane surrounding the muscles, &c. 2. The blood vessels and nerves supplying the foot appeared perfectly healthy; and so did the fascia and tendons. 3. The tibialis anticus and extensor communis were but slightly altered; but the gastrocnemius and soleus appeared more like gelatinous substance than muscles, having entirely lost the fibrous structure. There were occasionally interspersed oily tumours, and some of them seemed adherent to the tibia. 4. The structure of the tibia, for about two inches in its centre, was entirely changed; and instead of compact bone, a substance, not unlike to putrid cheese, was met with. It was very oily. Higher up and lower down than the space above specified, the bone retained its shape or form, though not its firmness. It could be easily cut with a knife, was very oily, and occasionally pieces of bone could be discovered: shewing, that the destruction of the tibia was not complete in those places. It was apparent, that the knife had not removed all of the diseased parts. The fibula was perfectly sound, as far as autopsic examination extended.

It would be useless to describe all the consequent symptoms and treatment; as they were generally such as are met with in our systematic works. I shall, therefore, only notice such as were, in the treatment, attended by circumstances not a little remarkable. On the 9th day after the operation, that part of the wound, which was not covered by skin, became very irritable; bleeding on the slightest touch, and exquisitively painful. Powdered opium was thinly sprinkled on the ulcer. To my surprise next morning (for it was in the evening when it was applied) I found my patient labouring under the bad effects to be expected from a large dose of opium given internally. The pain and tenderness were completely removed. His pulse was weak and intermittent; his skin soft and clammy; his mind stupid though easily roused out of sleep. He was affected with subsultus tendinum, and an almost involuntary picking and scratching at the nose and face. His mouth was clammy, and his voice much altered. Retention of urine and costiveness were also present. Costiveness was removed by repeated doses of sulphate of magnesia; and the other symptoms gradually declined. The sore again becoming irritable, powdered opium mixed with rhubarb, one part of the former with two of the latter, was again applied; and with the same result. In fact, I repeated the application under so many circumstances, as to leave no doubt on my mind, that the symptoms above described were really the effect of the opium.

In the course of the subsequent treatment I was induced to apply rhubarb alone to the wound. The next day, my patient had a severe purging, accompanied by a bitter nauseous taste. I presented him with some rhubarb, and he immediately recognized it as the substance which he tasted so sensibly in his mouth. In fact, he stated, that he knew *certainly* it was the same. It was reapplied, and with the same result. I was led to make particular observations on this subject, from a case, related to me by a friend in whom I had unlimited confidence, of an elderly gentleman, who, in a fit of intoxication, received an extensive bruise on the posterior part of the thigh. In the course of the treatment, his attendant applied rhubarb, and with the result above described. My friend stated, that so confident was the patient that it was rhubarb he tasted in his mouth, that it was impossible to convince him to the contrary.

Will these facts throw any additional light upon the modus operandi of medicines?

After much attention, the ulcer was finally healed; but fistulous openings immediately appeared; and from their course, as well as the constant pain attending them, it was apparent that the disease of the bone was not even checked. A second operation was determined upon;—and, on the 10th of July, the thigh was taken off about one third up the os femoris. Our patient's sufferings were now most exquisite.

On examination, the part of the tibia, which, on the first operation, retained its form and part of its consistence, was now converted into the disorganized cheese like substance before mentioned. The fibula, no doubt, from being covered with a diseased mass, after the first operation, was now equally disorganized. The stump healed rapidly, and the patient is now quite well.

From the history of the case, and especially from the fibula becoming finally involved, I am induced to believe, that the disease of the bone was the effect, and not the cause, of the disease of the soft parts. If this supposition be correct, the necessity of paying more attention than is usually done to ulcers in the vicinity of bones must be apparent. At any rate, I hope, the above narrative will not be without its benefits.

ARTICLE III.—*Practical Observations on the Datura Stramonium.*

By M. CUNNINGHAM, M.D. Arkansas Territory.

In the following remarks on this plant, I do not pretend to enumerate all the diseases in which it may be useful, but only to give an account of its use in my own practice.

The first disease in which I used the plant was the *asthma.* During the paroxysm of this distressing complaint, I have directed the seeds to be smoked until vertigo was produced, which almost invariably terminated the paroxysms. The beneficial effects of the plant, thus used, induced me to try its efficacy in preventing the attack. I accordingly directed my patient to smoke the seeds until vertigo was produced, whenever they felt the premonitory symptoms of the disease: this has uniformly prevented its occurrence. In several cases I have reason to believe that a complete cure has been effected. In the summer of 1818, I was called to see a woman, labouring under a violent attack of this disease. The smoking of one seed removed the existing paroxysm. She then informed me that for fifteen years she had been afflicted with the disease; that it was brought on, as she believed, by a sudden cessation of the menses, from exposure to severe cold. For several years the attack was monthly; it then came on every two weeks, and for the last two years she has had an attack every week. Generally the paroxysm is slight, especially in the summer season, but occasionally it is very violent and frequently continues, especially in the winter season, for two or three days. In this case, with but a faint hope of a final cure, I directed the remedy to be used whenever she felt any symptoms of an attack. Six months after this time I again saw this patient. She had succeeded, by means of the remedy, in preventing any recurrence of the disease. As above stated, one seed produced vertigo when first used, now she smokes a pipe full. In the fall of 1819 I once more saw this woman, she still continued free from the disease and had not for several months used the medicine.

In *epilepsy*, although I cannot relate any cure, still I have realized the happiest effects from the stramonium. Twenty grains of the powdered leaves, three times a day, and of the saturated tincture, made of the bruised seed, a tea spoonful every six hours, were taken by a patient of mine, a boy 14 years of age. Previous to his taking the medicine he had from ten to thirty fits every twenty-four hours. The medicine produced first an abatement of the violence of the fits, then of their number, and when the ultimum dose was attained, a complete cessation of the fits for six weeks. The medicine was omitted by the friends of the boy; the fits returned and proved fatal. Notwithstanding the disease in this instance had existed for eight years and had attained to a great degree of violence, still, from the effects produced by the medicine, I was induced to hope for a favourable termination, if the remedy had been persevered in. The medicine in this case operated freely on the bowels, and the morning doses produced dilatation of the pupil, which continued but for a short time.

The stramonium will be found a valuable remedy in *inflamed ulcers*, and in those ulcers accompanied with great irritation, for which the conium maculatum has been found so highly useful. The bruised leaves may be applied, or, what in some cases answers a better purpose, the leaves wilted by pouring boiling water over them, and applied warm, will prove a very soothing application.

In *inflammation of the mammæ*, I have found the warm stramonium poultice a valuable discutient.

In *hemorrhoids*, the bruised leaves in some cases, in other cases the warm poultice, have proved the most valuable remedy I have ever tried.

The disease to which I wish most particularly to call the attention of my medical brethren, and for which the stramonium is the most valuable remedy which I have known to be used, is a sequela of the fevers of southern climates and an almost universal attendant of the intermittents of this section of country. I mean the *enlargement of the spleen*, or ague cake, as it is generally termed. The immense size which this viscus attains is hardly known to practitioners in northern climates. The rapidity of its growth is truly astonishing; and although it occasionally, without any direct means, diminishes in size, so as to be no longer troublesome to the patient, it generally proves very difficult to remove, and is very grievous to the person afflicted therewith. I first saw this disease in Batavia, in the year 1804; the treatment I then recommended was that usually prescribed for chronic hepatitis. Since my residence in this part of our country, I have had frequent opportunities of treating this disease in the manner thus practised. In some cases I have been successful, in many I have failed. For the last three years, I have had recourse to the stramonium. *Externally applied*, I am warranted in saying that the leaves, wilted by boiling water and applied as a poultice over the enlarged spleen, as warm as the patient can bear, and renewed night and morning, will, if persevered in, completely remove the disease. It will be necessary to keep the bowels open, by taking a small portion of Epsom salts every night. By this means, I have not failed to remove the disease in a few days, in recent cases; those of long standing will require perseverance in the remedy for several weeks. In the following cases, a small variation in the treatment was rendered necessary from peculiar circumstances.

On the 9th of September last, I was called to see G. D., a man of thirty-five years of age, and found him labouring under an enlargement of the spleen, which extended nearly down to the iljum, and across the abdomen, two inches to the right of the umbilicus, and, as well as I could judge, the thickness was fully three inches. The disease had existed for several years, but had given no particular uneasiness except from its bulk, until four days ago, when inflammation, accompanied with great pain and soreness of the abdomen, had ensued. He had bled himself freely and had applied a large blister without relief; the pain was very acute at night, in the morning it abated.

℞. Sal. Epsom. ℥ iii.; Sal. Nitri, ʒ ii.; mix; dissolve in ℥ viii. of water:—a table spoonful to be taken every hour, until the bowels are freely operated upon. Afterwards take a pill containing three grains of opium and two grains of tartar emetic. These medicines to be continued every day, until the pain be removed. The stramonium poultice to be applied night and morning.

On the 16th I again saw my patient—the spleen was no longer to be felt—the abdomen free from pain and soreness—colic pains were troublesome for several days after this time.

On the same 9th of September, I was called to a child of R. W., three years old—she complained of pain and soreness of the belly—the spleen occupied as much space as in the former case. There being some symptoms of worms I directed the following combination. ℞. Calomel. gr. vi. Gambogi. gr. vi.; mix; divide into six equal portions—one to be taken night and morning in syrup. The stramonium poultice to be applied night and morning. On the 16th the child was free from complaint—the spleen not to be felt.

The theoretical speculations of one living in so remote a section of our country would fail to interest those living within the focus of theory. I therefore content myself with the bare relation of facts.

The above paper from our distant correspondent, although containing little that is strictly new, promises, as he observes, to be very valuable in some sections of our extended country, and may be useful to every one, in recalling attention to the powers of the stramonium, once so famous and now comparatively neglected. Smoking the dried leaves, or seeds, has often relieved the paroxysm of asthma; but practical men have declared, that permanent relief is not afforded, and moreover that very decided injury has ensued,—the paroxysms returning more frequently and the disease sooner terminating unfavourably. On this point we would fix the attention of our experienced readers and request the result of their observations.

Of the efficacy of stramonium in hemorrhoidal tumours, we have had satisfactory personal experience; having prescribed the soft extract as a local application, some years since, on the recommendation of Professor GIBSON, of the University of Pennsylvania.

How far the external use of this narcotic plant contributed to the recovery of the above detailed cases of enlarged spleen may be questioned. We regret that a more full account of these and of other cases, apparently in the possession of our author, was not given. For agreeably to our views of the pathology of such affections and from what we have seen of their treatment, we should attribute much more efficacy to the internal alterative and purgative medicines administered than to the external application of the stramonium. Enlarged livers and spleens, the sequelæ of intermittent fevers, unfortunately to be observed here during the last four years, as well as to the south, appear to be dependent on two causes,—first the simple distention, or passive congestion, of the large venous vessels of these viscera, belonging as is well known to the portal system, and secondly on a chronic, or sub-acute, inflammation of a very mild character, as the cause or the result (we believe, the result) of the turgescence of its vessels. To unload the distended vascular apparatus of the liver and spleen, what practice promises to be more efficacious than a course of cathartics and alterative remedies; as antimony and calomel—all of which increase the secretions of the liver, pancreas, stomach, and intestines, and thus operate as powerful and direct evacuants from the very system of vessels involved in the disease? and are not the same remedies valuable in removing, on the same principles, the chronic inflammation, the cause or the consequence of the distention?—We think, that experience decidedly confirms these views and this treatment; to be assisted, often very materially, by other parts of the antiphlogistic course—particularly by cups and leeches—and also when there is much pain or soreness by fomentations, among which the hot wilted leaves of the stramonium may be peculiarly advantageous. The sudden disappearance of the hypochondriac tumours, noticed by our correspondent as well as by ourselves and others, cannot we think be explained on any other supposition, than that such tumefactions are mainly the result of venous engorgement and of course may be dissipated as soon as the vessels can be directly or indirectly unloaded.

ED.

ARTICLE IV.—*A Description of a Peculiar Ulcerated State of the Scrotum which had been mistaken for a Malignant Disorder of the Testicle.* By J. RANDOLPH, M.D.

I am induced to publish the history of the following case, from a belief of its being of so rare occurrence as to have escaped the notice of surgical writers, at least as far as I am acquainted. Dr PHYSICK informs me that he has seen in the course of his practice four similar cases, all occurring in foreigners.

On the 17th of September 1827, Mr ———, aged thirty years, attached to the United States navy, arrived in Philadelphia and presented himself to Dr PHYSICK and myself under the following circumstances. He informed us that he had been upon a cruise of twelve months in the Greek Archipelago and arrived in port Mahon about the 7th of May, at which time he first perceived an enlargement of the left testicle accompanied with some slight inflammation and a disagreeable sensation in the spermatic cord. The swelling continued nearly stationary, being very hard and without much pain, until he arrived in the West Indies in the beginning of July, about which time the tumefaction and inflammation increased considerably. Previous to his arrival in the West Indies, leeches had been twice applied without producing any change for the better. A few days after his arrival an evident fluctuation could be felt about the middle of the anterior part of the scrotum over the testicle, and when apparently nearly ready to ulcerate, the surgeon of the vessel made two small punctures from which about a table spoonful of very thick matter was discharged. From this time until the beginning of August a thin discharge was kept up through the openings. He now returned to the United States, and being in Richmond, Virginia, on the 10th of this month an ulceration of the scrotum took place near the punctures, which soon after joined an ulceration formed where the punctures had been made, constituting one large ulcerated cavity exhibiting at its bottom a white substance of considerable thickness. There was at this time a continual and large discharge of fetid matter. During Mr ———'s stay in Richmond, he consulted a respectable medical gentleman of that place, who deceived by the hardness of the tumor and the unfavourable appearance of the ulcer, believed it to possess a malignant character and proposed its extirpation. For some particular reasons the patient was unwilling to submit to the operation there; but determined with the advice of his physician to come on to Philadelphia and have the operation performed by Dr Physick. He accordingly arrived in this city, as I have already said, on the 17th. I candidly admit that on my first seeing the condition of the parts, I was much disposed to entertain a similar belief respecting the malignancy of the disease with the gentleman who had seen it in Richmond, and supposed an operation would be necessary for its removal; but, fortunately for the patient, Dr Physick's more valuable and extensive experience taught him better; he informed me, as I have before mentioned, that he had met with four similar cases of the same disorder, and had succeeded in effecting a cure in each of them. At this time the ulcer occupied about one third of the anterior face of the scrotum; its edges were thick, smooth, and rounded in some places, and jagged in others; its bottom was completely invested with a mass of coagulating lymph about one fourth of an inch in thickness, of an elastic, tough, fibrous nature, resembling very much the substance of which arteries are composed, as has been observed by Mr Hunter of coagulating lymph wherever it has been completely deprived of its serum by pressure, an effect produced in this instance by the compression of the integuments caused by the distention and swelling previous to the ulceration. This lymph extended in some directions for a considerable distance under the sound integuments, adhering for the most part very firmly to the surface of the granulations underneath; but in other places when the edges of the ulcer were separated, it was withdrawn, and its elasticity was such as to raise it up and cause it to project a distance of half an inch or more, and it might be and indeed was mistaken for fungous granulations coming up from the substance of the testicle or tunica vaginalis. The testicle at this time appeared to be considerably larger than its fellow, which retained its natural size and was not implicated in the disorder; it was hard to the feel, and handling it occasioned but little pain; the cord was also enlarged and rather more painful. The scrotum and integuments were a good deal inflamed, in part probably owing to his journey. It was impossible in this case to assign any evident cause for the appearance of the disease, the patient could not recollect that he ever had received a hurt of any kind in the part, neither could it be attributed to any venereal taint. It may be proper to mention that he had suffered several severe attacks of pleurisy which left him a distressing cough, and his extremities were also affected with rheumatism. From the appearances of the ulcer which I have just described, it will be perceived that it partook very much of an indolent character, and consequently the local applications which were made to it were such as would have a tendency to effect the change necessary for its cure, considered with reference to this particular kind of ulcer.

Treatment.—The patient's diet was directed more in regard to his cough than the affection of the scrotum; he was requested to live principally upon rice and the more nutritious vegetable articles. All stimulating drinks were prohibited. Five drops of the liq. arsenical. Fowleri were prescribed to be taken twice a day, he was requested to keep the scrotum carefully suspended, and a carrot poultice was directed to be applied to the ulcer. After continuing the carrot poultice for some time, and occasionally sprinkling the surface of the ulcer with carbon. ammoniæ*, I succeeded in detaching the lymph from the granulations below in parts of the ulcer which were exposed; but, inasmuch as this substance extended for some distance underneath the sound integuments, in order to get at this, on the 5th of October a portion of the scrotum covering the upper part of the ulcer of about half an inch in breadth was removed in the direction of the penis. The carrot poultice was then continued on the parts thus exposed. On the 12th I changed the carrot poultice for a bread and milk poultice: after continuing these for some time finding the separation very slow, I applied the powdered arsenious acid in the proportion of one part of the white arsenic to five parts of flower of sulphur. As soon as the parts destroyed by the escharotic sloughed off, I reapplied it.

Under this treatment, I soon had the pleasure of seeing the ulcer very gradually change its character: in those parts where the granulations were exposed they assumed a much more healthful aspect; other portions of the scrotum were removed in parts covered by the lymph. As soon as this substance was completely gotten rid of, I applied with good effect a preparation much used by Dr Physick, made by steeping rubigo ferri in nitric acid and then drying it†. After this the applications were varied from poultices to Maby's plaster, simple cerate, &c. Early in December the swelling and hardness entirely disappeared both from the testicle and spermatic cord, and in a week or two afterwards the ulcer was perfectly healed up. During the progress towards a cure, two sinuses formed: one which extended in a horizontal direction I laid open, and touched the surfaces with the nitrate of silver; to the other which extended downward I applied the arsenic with entire success.

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* Dr Physick has used this article with considerable advantage in the treatment of this particular kind of ulcer, both in the form of powder and fumigation.

† Dr Physick has also been in the habit of employing this preparation with much good effect as an application to obstinate chancres.

With respect to the use of the arsenious acid as an external application I would observe, that soon after engaging in the practice of my profession I met with several cases of obstinate ulcerations which had resisted all the usual applications employed for their cure, and were finally treated in the most successful manner by the use of this article. From a knowledge of these cases I was disposed to set a high value upon the article as a remedial agent, and was not a little disappointed to find, upon consulting various authors, the many well attested facts and experiments which go to shew the deleterious circumstances which have resulted from its employment both internally and externally. It appears from the experiments and investigations of Mr BRODIE, that death has been produced more rapidly from the external application of arsenic to an abraded part than when administered internally, that the inflammation, which is confined to the stomach and intestines, is more violent from its external application, and that this inflammation takes place before any inflammation of the wound. Mr HUNTER and Sir EVERARD HOME proved the same fact by an experiment made prior to Mr BRODIE'S. That the most injurious consequences may arise from the improper employment of active remedial agents is not a proper subject for discussion at the present day: if any evidence were necessary upon this point, it might be most unhappily furnished by the very article in question as it is used by empirics. Neither would I consider it decorous to doubt the validity of the interesting cases mentioned by DESGRANGES, ROUX, Sir ASTLEY COOPER, and others, in which death would seem to have resulted from the external application of arsenic, when employed by those competent to direct it properly. I would here only observe, that the above is contrary to all the information which I have been able to collect personally upon this subject, and in direct opposition to my own experience, which has been not a little in the use of this article. There is perhaps no person who has made a more successful and general use of the external application of arsenic than Dr PHYSICK, and he informs me that he has never in the whole course of his practice seen it productive of the injurious consequences which I have mentioned. Sir EVERARD HOME, in his work on ulcers, under the head of "ulcers which yield to the use of arsenic," says, "it is however a medicine that may be used with safety, both internally and externally, in many diseased ulcers, with the greatest advantage."

Dr PARIS, in his valuable work on Pharmacologia, states that "LIONARDO DI CAPO relates the case of a child killed by the violent vomiting and purging arising from a slight wound made in the head by a comb wet with oil in which arsenic had been infused for the purpose of killing vermin." Now I do not think it at all more remarkable that death should occur in consequence of a wound made in the head by the teeth of a comb, unassisted by the arsenic, than that the most dreadful symptoms should arise in consequence of the prick of a thorn upon the finger, or that death should ensue from a scratch upon the thumb from an oyster shell, both which circumstances I have known to occur*.

ARTICLE V.—*Case of Incipient Phthisis, in which Digitalis was successfully employed.* Reported in a letter to one of the Editors by SAMUEL B. SMITH, M.D. Surgeon in the United States Army.

Fort Delaware, Feb. 1, 1828.

Sir,

The following case, taken from my public journal, adds one more to the many interesting proofs we possess of the occasional efficacy of digitalis in removing incipient phthisis.

Fitzgerald, a recruit, aged twenty-one years, was assigned to a company of artillery, stationed at Fort Delaware, in May 1827.

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* These observations embrace the question of *Endermic Medication*, now agitated by the profession, particularly in France. We would refer our readers, for the present, to the facts collected by us in Vol. II. of this Journal, p. 178, and Vol. III. p. 189, and also to Dr Horn's paper in the present number.
ED.

He had a graceful form, but a slender constitution, indicated by a fair complexion, with mild blue eyes and very black hair, a long neck and narrow chest. No suspicion however was entertained, at the time of his admission into the company, that he was particularly liable to scrofulous or pulmonic diseases.

A short time after he was first engaged on guard duties, he complained of pain in his left breast and a slight cough. As the pulse was hard and quick, he was bled, directed to take an infusion of senna and manna, to be blistered on the chest and to drink freely of flaxseed mucilage. He returned to duty in a few days in his usual health. When under this first treatment, he informed the surgeon that he had long been in a delicate state of health—subject to repeated attacks of catarrh which gave more or less pain in the chest; that on two occasions (one of which was recent) he had mucous expectoration streaked with blood, and that he had thereby been induced to abandon a sedentary occupation for the active duties of a soldier.

Towards the close of July 1827, the garrison left Fort Delaware and encamped, for some weeks, at the southern extremity of New Jersey, on the beach near Cape May.

On the morning of the 3d of August, Fitzgerald was reported ill, and removed to the hospital tents. He had been taken with a severe chill in the night and thence concluded that it was an ague, but other symptoms following soon after declared the disease to be pneumony. The pulse was unusually active and hard; the face highly flushed; the skin hot and dry, and to these were added headach, furred tongue, acute pain in the left lung, and incessant cough without expectoration. He was immediately bled ten ounces and ordered a brisk cathartic of neutral salts. He was bled daily eight ounces from the 4th to the 14th, and purged with calomel, soap and rhubarb every second day for the same period. This continued abstraction of blood was imperative, in consequence of the presence of inflammation and acute pain in the throat. The quantity of blood drawn might have been taken in a few hours in many cases with advantage, but this man was peculiarly organized and danger was to be apprehended from prostration, especially as expectoration might be profuse. On the 11th a large blister was applied over the chest, and during the prevalence of fever he drank freely of flaxseed lemonade in which moderate portions of nitre and tartar emetic were dissolved. The blood first drawn denoted violent membranous inflammation and it continued to be buffy until the 4th when it ceased. Pain and fever left him on the evening of that day, but mucous expectoration was very great, being upwards of nineteen ounces in thirteen hours. Pectoral mixtures containing opium, rich wine whey and nourishing broths during eight days rendered him sufficiently convalescent to walk abroad. He continued to improve in strength until the 2d of September, when, after unavoidable exposure, he was taken with quotidian intermittent, which yielded, on the 8th, to sulphate of quinine and opium. This intermittent led to very serious consequences, causing a return of pain in the chest, an increase of cough and expectoration which had before nearly subsided, and a distinctly marked fever every evening. The discharge from the lungs (which had been simple mucus) assumed a heavier and more purulent appearance. Calomel, opium, and squills, agreeably to the usual formulæ, were prescribed with a view to ptyalism, and the patient left for some time under the charge of an intelligent assistant who had earnest injunctions not to alter his medicines. When the surgeon returned to the garrison on the 25th, a fearful change had taken place. The face was angular from the contraction of the muscles; the lips pale and flabby; the eyes languid; respiration painful and humid. Expectoration difficult; the pulse small, quick, weak and intermitting; and cold clammy sweats, after short hectic paroxysms, completed the melancholy catalogue. A full opiate was given in strong warm brandy toddy, and frictions of hot brine and brandy were freely applied for several hours to the skin generally. These gave some relief, and he enjoyed comparative repose during the greater part of the night. Consumption, so anxiously apprehended and so faithfully contended against, was now unequivocally established. The case seemed hopeless, and the attending surgeon became anxious and embarrassed; mercury had already proved absolutely pernicious, and most of the known remedies could only be expected to act as palliatives and that for a short period. After serious inquietude, digitalis and opium were selected as a forlorn hope. They were completely successful. A rigid milk and mush diet was adopted and a strict regard to an unvarying temperature of the ward enforced. The whole chest was again blistered and the subjoined prescription exhibited every four hours.

℞. Pulv. Digitalis purp. gr. ¼.
Pulv. Opii, gr. ¼.
Pulv. Zingiber, gr. v.—M.

Mucilaginous drinks were freely given, and frictions of hot brine and brandy made upon the sides and upper extremities every night. The medicines were increased, on the 3d of October, to half a grain each, and continued with great regularity every six hours until the 24th of October, when they were raised to one grain each. This quantity caused slight convulsive twitchings and prevented sleep. The half grain doses were therefore resumed and persevered in until he returned to duty.

The first visible favourable impression made by the digitalis was the cessation of the cold, hectic perspirations. These ceased in a few days after its first exhibition. In thirty days such a change had been effected in his state as to leave no reasonable doubt of ultimate permanent relief. At that time the pulse was regular, temperate and comparatively full. The features had lost their unpleasing contraction. The eyes and countenance were animated. Respiration less painful. The cough greatly abated and the expectoration sensibly diminished in quantity and improved in aspect. On the 16th of November all pain, cough and expectoration had entirely ceased: and he remained a pleasing and memorable instance of redemption from imminent pulmonic danger by the use of digitalis.

ARTICLE VI.—*Experimental Inquiry on the Influence of the Pneumo-Gastric Nerves.* By EDWARD R. WARE, of Georgia.

There is nothing more frequently praised than the certainty of the evidence of natural truths. Each writer in his turn thinks his discoveries completely established, and arrays his alleged facts in an apparently resistless phalanx. But almost every one who elicits novelties is, in spite of his confidence, subjected to controversy and contradiction. His facts are denied, his experiments refuted, his conclusions declared inadmissible, and his veracity and philosophical honesty called into question. These reflections were suggested by a perusal of the written conflict respecting the influence of the eighth pair of nerves on digestion. The experiments of **WILSON PHILIP**, illustrative of the influence of the eighth pair of nerves on respiration and digestion, have been subsequently repeated by an English writer, **BROUGHTON**, and results diametrically opposite been reported. In order to satisfy myself as to the cause of such discrepancy, and, if possible, to ascertain the truth, free from all bias or prepossession, I instituted the following course of experiments, assisted by Dr J. H. Finley and others of my medical friends.

Experiment 1.

After causing two rabbits of the same age and size to fast for the space of sixteen hours, I gave them as much parsley as they would eat. One of them I set at liberty. In the case of the other I divided the nerves of the eighth pair, about midway in the neck. The division was immediately followed by difficult respiration, soon attended with a croaking noise, and gradually increased until death supervened; which happened in six hours and a half after the operation. The other rabbit was then killed; and a comparative examination made. The stomach of the one subjected to the operation was much distended, the general mass of food had undergone but little change; that part which was in contact with the parietes of the stomach was altered in colour, and somewhat in consistence, resembling partially digested matter. The central parts retained their natural colour and odour, and resembled finely chopped parsley. The lungs were largely engorged with blood, but did not sink in water. The trachea and air cells contained a frothy fluid. The stomach of the rabbit not operated on was hard and contracted, and about half the size of that of the other. That part of digestion confided to the stomach was comparatively completed; for though all the contents had not passed out at the pylorus, yet what remained was a uniform chymous mass, more compact and dry at the pyloric than towards the central or cardiac portions. This experiment was satisfactory and conclusive, and was followed by six others of a similar nature, all of which gave uniform results.

Experiment 2.

A half grown cat was kept without food for twelve hours, and then one ounce and a half of raw beef was given. In fifteen minutes after, I divided the eighth pair of nerves. The usual symptoms followed, differing from those of the last experiments only in degree; respiration was deep, slow, and laborious, attended with a croaking noise, and apparent efforts to vomit, which continued to increase for ten hours, when from the great distress and prostration I was induced to kill it. Upon examination no change was perceptible in the food, except in the circumference, which had lost its livid hue, and resembled beef shortly after being placed in warm water. It had lost nothing in weight. The lungs were engorged with blood—and the trachea filled with frothy fluid slightly tinged with blood. This experiment was also confirmed by one other.

Experiment 3.

Having caused two rabbits of the same age and size to fast for sixteen hours, I allowed them as much cabbage as they could eat, after which I made a section of the eighth pair of nerves in each. One I set at liberty. The other, the hair being shaved, on either side, from the region of the stomach, I submitted to the influence of a galvanic trough, containing fifty pair of four inch plates—the intervals being filled with sulphuric acid and water, in the proportion of one of acid to sixty of water. A gentle and uniform twitching of the muscles of the trunk was kept up, by the occasional addition of acid, for six hours, at the end of which time (the animal being almost exhausted) it was killed by a blow upon the occiput. Examination being made, the stomach was found distended as in the preceding experiments: the external part of the contents was changed in colour and somewhat in consistency, so as to resemble a chymous mass; whilst internally it was as it had been chewed and swallowed. The lungs were engorged, though not quite so much as usual. During the process, the respiration exhibited the phenomena seen in the other cases. The trachea contained a frothy fluid. This animal eat nothing after the operation, and nothing was found in the oesophagus. In half an hour after (six hours and a half after the operation) the other rabbit died; the stomach and its contents resembled in every respect that of the galvanized rabbit. The lungs were more largely engorged with blood, which constituted the only apparent difference.

Experiment 4.

A rabbit, after fasting, was afforded as much parsley as it would eat; when the hair was shaved on the back, near the region of the stomach, and a small plate of tin bound thereon : the eighth pair of nerves were divided, and about a quarter of an inch of the lower section of each coated with tin foil. The tin foil and tin were connected with the opposite poles of the galvanic trough, and a uniform effect kept up for five hours and a half, when the animal died. Its respiration during the process, the state of its stomach, food, lungs, and trachea, differed in no particular from those in the immediately preceding experiments.

Experiment 5.

Two rabbits were caused to fast for twelve hours, when there was given as much cabbage as they would eat. The one remained in its natural state. In the other the pneumo-gastric nerves were divided and submitted to the galvanic power as in the last experiment, and a uniform effect was kept up for seven hours, when the animal died. Upon examination it was found to differ in no perceptible degree from those in which the nerves had been divided. Whilst the stomach of the healthy rabbit exhibited the contents diminished in quantity, and in a completely chymous state, and in the pyloric portion comparatively dry and compact.

These experiments, made with much care, time and labour, serve to shew the great caution with which we should receive the accounts of even experimental inquiries. They afford results agreeing with those of Dr Philip, respecting the effect on digestion by the division of the par vagum; for by that section digestion is almost totally arrested; and although they would indicate partial action, it is so slight, that it may be justly attributed to the healthy secretions of the stomach poured out immediately preceding the operation. Although secretion, the alleged cause and as we believe the *primum mobile* of chymification, does not cease after the division of these nerves, but, on the contrary, appears to be augmented, yet, inasmuch as it is incapable of changing food to chyme, it must be morbid. Another apparent barrier to chymification is the deficiency of action in the muscular coat of the stomach, known from the violent and ineffectual efforts to vomit,—symptoms constant, and remarkable, particularly in cats,—and as proved in those rabbits which were permitted to eat after the operation, where food was found in the oesophagus itself. But when we endeavour to institute the galvanic irritation for that action carried on though continuous nerves, we cannot confirm either the facts or conclusions of Philip. Our results are entirely contradictory of his: and we are compelled to acknowledge our belief in the inaccuracy of his galvanic experiments, and stand prepared to deny that there is yet any good reason for believing in the identity of galvanism and the mysterious principle of life.

Death, in all the cases here related, seemed to be caused rather by the state of the lungs than by that of the stomach; for the engorgement and obstruction in the organ of respiration put finally an entire stop to the access of air into the bronchial cells, and suffocation ensued.

As the object of this essay was to investigate a fact rather than an opinion, it is necessarily short; for a few experiments, though troublesome and difficult, have furnished results which afford no opportunity for creating a lengthened dissertation.

ARTICLE VII.—*Case of Chronic Headach successfully treated with Fowler's Arsenical Solution.* By JOHN C. OTTO, M.D. one of the Physicians of the Pennsylvania Hospital.

I designed to add to my note to the letter of Dr ALEXANDER on the use of arsenic in the case of Major Harris, contained in the eighth number of the North American Medical and Surgical Journal, the following case, but could not place my hand on it at that time.

Y. K. at the age of eleven years, was attacked, without any assignable cause, with violent headach that came on daily. His constitution was good, and with this exception he had been unusually healthy through life. When I first saw him, March 1819, it had continued three years and had been gradually progressing in violence, but he thought he suffered rather most in summer. There had been no respite to the complaint, except during a few days when he was taking emetics. The paroxysms did not return at the same hour, and could be brought on, at any time, by exposure to the sun, over exertion, putting on a tight hat, or by any thing that bound his head considerably, which was rather disproportionably large. Ultimately the attacks lasted several hours, but varied a good deal both as to violence and duration, and were never accompanied by nausea or fever, nor seemed to depend on any thing that had been eaten. The pain was not confined to a small part, as is very often the case in periodical headach arising from the cause of intermittent fever, nor like hemicrania did it occupy one side of the head: the forehead suffered most and was generally warm, but no part was entirely exempt from pain. He had taken very little medicine, for a physician of eminence, in the part of the country from which the family had lately removed, gave an assurance that it would be to no purpose, and great reliance was placed on his opinion. The parents were unwilling to have recourse to any thing painful, or even disagreeable, without a prospect of benefit. During two years the child continued at school, but afterwards he was obliged to lay aside his studies. His case was stated to me while in attendance on his brother. I represented to them the impropriety of abandoning him to the operation of nature, which had been of no service, and that it was time enough to despair of relief when the resources of medicine had been fairly tried and failed. Upon their consenting to his becoming my patient, I directed five drops of Fowler's solution of arsenic to be given him three times a day. This treatment was continued two weeks without any improvement in his complaint, nor was any nausea, griping, or swelling of the eyelids or face, produced. A day or two afterwards, without his taking any other medicine, he ceased to be attacked, nor was there any subsequent return of the disease for two years, when the family removed to a distant part of the country to live, and I have not heard from him since. He was directed to be particular to avoid all exciting causes, to keep his bowels open, and to use but little animal food. As the good effects of medicine are not always immediate, I am induced to think that the arsenical solution ought to be considered as having been instrumental in relieving him.

ARTICLE VIII.—*Observations on Affections of the Mammæ, liable to be mistaken for Cancer.* By JOSEPH PARRISH, M.D. one of the Surgeons of the Pennsylvania Hospital.

From much experience in cancerous affections of the breast, I have been led to the conclusion, that derangements of structure in that organ, of a nature comparatively innocent, are often mistaken for scirrhus. Not a little of the success which has been attributed to surgical treatment in this terrible complaint, has, I believe, arisen from its direction to such cases. My own opinion is that real cancer is a constitutional affection, and that, in the greater number of instances, even extirpation affords but a slight chance of ultimate safety to the patient. On a future occasion I may perhaps offer the results of my observation on this point:—at present my object is to illustrate, by a detail of facts, the liability of the surgeon to misapprehend the character of tumours in the mamma, and thus unnecessarily to subject the female to severe pain, and to a mutilation which must always be unpleasant, and to a young person often very inconvenient. The inexperienced practitioner may thus be placed upon his guard, and by learning to be exceedingly cautious before resorting to an operation in cases which are at all doubtful, may save his patient much suffering, and himself perhaps much mortification and regret. I have always been strongly impressed with the obligation under which the surgeon lies to avoid a too hasty use of his knife; and have believed that his skill is displayed less in the mechanical performance of operations, than in the employment of measures calculated to render them unnecessary. For my sentiments in this respect I am greatly indebted to our distinguished fellow citizen, Dr Physick, whose instructions in surgery I attended even before his connection with the University, and from whom, during the prosecution of my studies, and in frequent subsequent intercourse, I have derived information which has proved highly useful to me, not only in the particular matter which forms the subject of the present paper, but also in many others connected with the practice of my profession.

I will begin by stating, that even the natural structure of the mamma may be mistaken for scirrhus. Every practitioner who has often been consulted in the complaints of females must have observed, that in some women there is an unusual hardness of the breast, without any departure from a perfectly healthy condition. This hardness is occasionally attended with a lobular structure of the gland; and it is not uncommon for the young surgeon to confound this state of things with disease, and to suppose that he is handling a cancerous tumour, when the parts are in reality perfectly sound. Even the experienced hand is not always secure from such a mistake.

I recollect well the case of a lady of this city, who came under the care of my lamented preceptor, the late Dr Wistar, and myself, with pain in the breast. We made repeated examination, and though aware of the occasional hardness of the mamma, were convinced that we could feel a tumour. As the patient complained of much pain, which she referred to a particular spot, and this spot coincided with that in which we supposed the tumour to exist, we concluded to recommend an operation. The patient consented: but in the mean time her mind was so strongly impressed by a dream, in which she thought that a cure might be effected by the application of a certain nostrum, that she was unwilling to submit to the knife till the remedy had been tried. We were not very reluctant to suspend the operation: and it was agreed that she should be allowed time to satisfy her mind. Not long afterwards, Dr Wistar was attacked by the illness of which he died; and the operation was on this account still further delayed. Sometime after his death, I was called in to see her. Upon making a strict investigation into her case, I was now convinced that the pain in her breast arose from a rheumatic affection, and that what had been taken for a tumour was nothing more than a portion of the mamma unusually firm. The idea of an operation was therefore relinquished: the pain gradually subsided under treatment calculated for the cure of rheumatism; and, though several years have elapsed, there has been no evidence afforded of the existence of cancerous disease.

In another case I was on the point of committing an error which would have caused me much uneasiness, and which I now mention in the hope that my experience may prove useful to others. In the year 1819, I was called to see a young woman with a small tumour in her breast, which so far presented the characters of scirrhus, that I conceived its extirpation advisable. The patient very willingly consented. At the time appointed I went to the house with two of my medical friends, who attended in order to witness and assist in the operation. Before proceeding to use the knife I placed my hand upon her breast, and was surprised to find, as I thought, that the tumour had much increased in size. My friends who were present also examined it, and thought they could feel a tumour of considerable magnitude. I had even traced the course and extent of the proposed incision and was about to commence the operation, when, almost by accident, I touched the real tumour, which remained exactly as when I first examined it. I had mistaken the natural hardness of the breast for scirrhous induration: and it may be readily conceived how painful would have been my feelings, had I proceeded as at first proposed, and, after the operation, found in my hand a portion of the gland in its natural state, while the diseased structure remained untouched.

So much for the liability of mistaking a natural healthy condition of the breast for scirrhus. The difficulty of forming a correct judgment is much increased when tumours really exist. It by no means follows that every hard, chronic, painful tumour of the mamma is cancerous. In the young female, if the breast remain freely moveable, and the skin present the natural aspect, even though the ordinary symptoms of scirrhus be exhibited, there is much reason to hope that the complaint is of another character, and may be relieved without the necessity of an operation.

I have twice attended a lady of this city affected with a tumour in the mamma. On both occasions it was large, very painful, and of a chronic character, and caused much alarm to herself and her friends: but by the use of purging, low diet, and discutient applications, it was entirely dispersed.

In another instance, a young woman was brought from the country to the city, and placed under my care, with a tumour of the breast, accompanied with enlargement of the axillary glands. In this case the discutient plan was employed without any obvious effect. Dr Wistar was called in consultation. It was resolved that the tumour should be removed, and the glands of the axilla dissected out. The time appointed for the operation was approaching, when I received a note from the Doctor, informing me that he was under the necessity of leaving the city the next day, and advising me not to allow his absence to interfere with our arrangement. But as the operation was likely to be a very serious one, I determined to delay it till his return, which was soon expected. A spell of very hot weather now came on, and as the patient was unaccustomed to the heated and confined air of the city, I feared that her health might be injured, and therefore recommended her to go into the country, and remain till the weather should become cooler. On her return, after a short absence, I found a very evident abatement of the tumour. This seldom, if ever, happens in genuine scirrhus, and I felt much encouraged as to the result of her case. Though the young woman herself was still desirous that something should be done, I determined, for the present, not to operate. Between one and two months afterwards, Dr Wistar, who had returned to the city, again met me in consultation; and it was our decided opinion that the complaint was considerably better. The case was one of great delicacy. The young woman was about to be married, and had a very natural dread of entering into the new state with a diseased breast. The circumstance was made known to us, and we were desired to decide upon the proper course—whether the operation should be performed, or the marriage should take place in her present condition. We gave the subject full consideration, and concluded to recommend that she should go home, and wait for a short time the result of that change which appeared to have commenced. Should the tumour increase, she might then come to the city and have it removed. She followed our advice. The complaint gradually disappeared; she was married; and when I last heard from her, was the healthy mother of several children. This is a case in which, had an operation been performed when first proposed, we should have honestly attributed to it the credit of the cure.

When in young persons, instead of a single tumour, there are two or more in the breast, the probability that they are not cancerous is still greater. It is not uncommon for practitioners to be consulted in cases of this kind. Sometimes both mammæ are affected, sometimes only one.

A young woman was sent from the country, supposed to have a cancer in her breast. Dr Physick and myself attended her. There were two tumours in one breast, and one in the other. We had before seen a case somewhat similar, in which the complaint had disappeared without an operation: but in the present, it was impossible to decide with certainty whether the tumours were cancerous or not, as they were not sufficiently advanced to display the requisite characters. We resolved, however, to postpone an operation till efforts had been made to discuss them. A low diet, with the use of saline purgatives, and a mercurial plaster to the breast were recommended: and the patient was advised to go home, and return to the city if there should be any increase of the complaint. Instead, however, of increasing, the tumours gradually diminished, and at length disappeared; nor have they since returned.

Scofulous affections of the breast not unfrequently occur, and are sometimes confounded with cancer. Several cases of this kind have fallen under my observation.

A young married woman, many years ago, was sent to me from Bucks county, under the impression that she had a cancer of the mamma, which required an operation. Her breast was considerably enlarged, presenting an irregular surface, with redness of the skin. The axillary glands were also diseased. Considering that if the complaint were cancerous, it had proceeded so far that an operation would be of very doubtful success, I deferred it for a short time. Happily the tumour became soft, and fluctuation was observable. It was opened, and scrofulous matter was discharged. The patient returned to the country, and gradually regained her health. In this instance there was none of that contraction or wrinkling of the skin which generally accompanies genuine cancer when it has advanced to the surface. But as the disease is sometimes attended with a swelling of the breast and a smooth skin, this circumstance did not enable me to form a certain diagnosis. Subsequent observation, however, has taught me, that there are peculiarities in the appearance of a scirrhous breast, even when swollen and smooth, by which it may generally be distinguished. Instead of a diffused redness, I have usually noticed, under these circumstances, a stellated appearance of the skin—red spots being scattered like spangles over the surface. This peculiarity is so striking, that I believe I could now distinguish, by the eye alone, between such tumours and mere scrofulous enlargement. The experience acquired from this case was of great use to me in one which afterwards occurred.

Having noticed some mistakes of my own in the preceding pages, I may be permitted to allude to those of others; though in doing so, I wish to be considered as indulging no feeling of censoriousness. On the contrary, I entertain the highest respect for the individuals concerned, and, in alluding to the transaction, do not feel myself entitled to use that freedom with their names which I have employed in my own case. A most respectable young surgeon of this city got hold, as he supposed, of a case of cancerous mamma. As the axilla was involved, an operation was a very serious matter. I was invited to see the patient, but was prevented by other engagements. Another surgeon, however, of high standing in his profession, examined the case, and came to the conclusion that it would be proper to remove the breast. An operation was agreed upon, and I was desired to be present. When I arrived, the patient was seated in the chair; both surgeons had their aprons on; and the operator, with the knife in his hand, was just about to make the first incision. I had no sooner cast my eye on the diseased breast, than I was struck at once with the strong resemblance to the case which I have above related. The tumour was large and moveable, and a chain of enlarged glands might be traced into the axilla. I was placed in a most awkward and unpleasant situation. On the one hand, a proper regard for the feelings of my professional brethren, for both of whom I had a high esteem, demanded much care: but on the other, the calls of humanity and duty were imperious, and could not be neglected. I took the young gentleman aside, and as delicately as possible imparted to him my conviction that the tumour was scrofulous. Naturally anxious to distinguish himself at this early period of his career, he seemed unwilling to relinquish the idea of an operation. In the mean time, however, our elder brother, who was a man of excellent judgment, had undertaken a more minute examination of the diseased mass than he had hitherto made; and found that not only were the glands of the axilla affected, but those also on the side of the neck; so that when we entered the room, he was fully prepared to unite with me in advising that the knife should not be employed; for even admitting that the disease might be cancerous, he was convinced that it had passed the bounds within which an operation could be successful. The difficulty of the case was thus much diminished. On looking at the tumour, I observed that in one spot the skin was discoloured; and applying my finger to the part, distinctly discovered fluctuation. At my suggestion the operator introduced his lancet, and pus, of that peculiar character which is found in scrofulous abscesses, issued from the wound. This settled the matter. Genuine pus, so far as I have observed, is never found in cancerous affections. All parties were now satisfied. The young gentleman afterwards informed me, that the complaint of the breast was ultimately relieved.

Sometimes deep seated abscesses of a scrofulous nature, form in the breast, and being attended with much pain, are liable, without care, to be mistaken for scirrhus. Two very interesting cases of this kind have occurred to me, both in young married women, with infant children.

The subject of the first case was sent to me from the country. She had been for several months affected with pain in her breast. Some treatment had been employed for her relief, but without success; and a tumour had formed. When I first saw her, I examined the breast carefully, and thought I could feel a deep seated, indistinct, fluctuation. This circumstance was sufficient to deter me from operating, till I had satisfactorily ascertained the nature of the tumour. I stated to her friends my hopes that the complaint might prove to be scrofulous, and proposed that a lancet should be introduced into the tumour, in order to ascertain the fact. Even should I be disappointed in my opinion, little additional pain would be occasioned, and the operation might then proceed as well as though nothing had been previously done. Their consent having been readily given, I took the lancet, and in order that I might be certain to reach the affected part, plunged it up to the hilt in the breast, in the direction of the tumour. When I withdrew it, only a drop or two of blood followed, and I began to fear that my hopes had been unfounded: but the blood soon began to flow more freely, and a litttle pus made its appearance at the orifice of the wound. I enlarged the opening, and was delighted to perceive that scrofulous matter escaped freely. The parts healed; and the complaint ultimately disappeared, leaving the breast perfectly sound.

The second case was equally interesting. A worthy pious man, a methodist minister, came to the city some time ago with his wife, an interesting young woman, the mother of two children. Their circumstances in life were very slender, and it was important to the mother that she should be able to suckle her own children, as the expense of a wet nurse was greatly beyond their means.

Before coming to the city, she had been urged by several practitioners to have the tumour taken out: but the husband made up his mind, that before his wife should be subjected to so painful a mutilation, he would, at whatever expense, bring her to Philadelphia, and obtain further advice in her case. Dr SARGEANT was consulted, and called me in to see the patient with him. I immediately suspected that the complaint might be a deep seated scrofulous abscess; for I thought I could feel fluctuation; and yet any surgeon, not on his guard, might have been led into error, as the fluctuation was very indistinct. I obtained permission, as in the former case, to explore the tumour before attempting an operation. Scrofulous matter immediately followed the withdrawal of the lancet. The breast healed, and occasioned no further trouble to the patient.

I need not dwell upon the consequences of mistake in such cases as the above. Independently of the unnecessary pain and mutilation inflicted on the female, the mortification of the surgeon must be extreme, when, having removed the tumour, he cuts it open, and finds a collection of pus, instead of the expected cancerous structure. In all deep seated tumours of the breast, where the evidences of cancer are not unequivocal, I would advise the adoption of the plan pursued in the instances above mentioned. An experienced surgeon, with a delicate sense of touch, can generally detect fluctuation, if there be a collection of matter: but should he be unable to do so, what is more safe and easy than to make a puncture with his lancet before commencing the operation. If an abscess exist, it is thus rendered evident; if not, and extirpation become necessary, no harm has been done. I believe that such cases have often been mistaken for cancer, and operations performed without the least necessity.

Cysts occasionally form in the breast which are totally free from any cancerous disposition. Within the last year, a middle-aged woman from the country came under my care, with tumour of the mamma. Upon a careful examination, I discovered an obscure, deep seated fluctuation. There were two tumours. I punctured them both with the lancet, and a serous fluid escaped. No unpleasant consequences resulted. Such an affection might have been readily confounded with scirrhus, and the mamma have been extirpated.

I will close the paper by observing, that we are liable to be deceived as to the nature of the action which sometimes takes place in the cicatrix, formed after the extraction of a cancerous tumour. If it be observed to enlarge, thicken, and assume a red colour, at the same time becoming tender and painful, there is reason to fear that the complaint has returned. But it occasionally becomes very painful, without undergoing any change in appearance or structure. In such cases the disorder is probably purely nervous, and a resort to the knife wholly unnecessary. I once witnessed a case of this kind under the care of another surgeon. The pain was so severe and continued, that it was determined to remove the cicatrix, under the impression that the parts beneath might be found in a diseased state. But they were perfectly healthy, and the pain, in all probability, arose from nervous irritation.

ARTICLE IX.—*Remarks on Phlegmasia Dolens.* By R. M. HUSTON, M.D.

In the conclusion of some observations on phlegmasia dolens, published in the eighth number of this Journal, it was announced as my intention further to illustrate the positions there laid down, by the detail of some cases which had fallen under my own notice; and to speak at the same time of the therapeutical management of the disease. This task I shall now endeavour briefly to perform.

Although the histories which follow may not be found to differ in many important features from those already published by various authors, they will not perhaps be found the less interesting on this account. This very sameness in the general symptoms of the disease, as observed by different individuals, goes to establish an uniformity in its character, which may lead to an uniformity of opinion and of practice, in regard to its pathology and treatment.

Case 1.

In the seventh month (July) 1816, I was called to attend R. B., then in labour with her first child. She was the wife of a farmer, twenty-six years of age, very fat, of short stature, and in the enjoyment of a high degree of health, the consequence of an excellent constitution, and habits of great industry, regularity and temperance. She was delivered, after twenty-four hours severe labour, of a living and healthy child. Her unusually great and protracted sufferings proceeded from her having a pelvis rather below the ordinary size, together with a very unyielding condition of the soft parts. To overcome this rigidity, she was bled to the extent of eighteen or twenty ounces; but without much apparent benefit; and her having never before been under medical treatment of any kind, rendered her unwilling to submit to that extensive loss of blood which my subsequent experience in such cases has convinced me to be necessary; and to enforce which, at that period, demanded on my part the possession of maturer years and a more established character. The patient was therefore left pretty much to the dictates of her own ignorance and inclinations; and although safely delivered, and without instruments or extraordinary assistance, it was after much suffering and exertion, a great part of which might, no doubt, have been spared by more judicious management.

During the first eight days subsequent to delivery, nothing remarkable occurred. There was a good deal of tenderness of the external soft parts, with general soreness of the abdomen, which appeared to be chiefly seated in the muscles. The lochial discharge was scanty, and the secretion of milk very limited. On the ninth day the patient complained of an increase of pain in the right side of the abdomen, extending over the right iliac region, and down into the groin of that side. In the afternoon she had shooting pains in the calf of that leg, with a sensation resembling cords drawing from thence to the affected groin, giving the feeling of soreness and tension along the whole course of the principal absorbents. Next morning (the tenth day after confinement) I found there was great enlargement of the thigh, leg, and foot of the affected side. The pain was now less circumscribed, the whole extremity having become exquisitely tender. The skin appeared to be stretched to its utmost limits, was extremely smooth and glossy, its colour resembling that of milk—white, with a slight tinge of blue. The sensibility of the affected parts was so great that the mere impression of a fly alighting upon them was insupportable. The uterine discharge, which had been fetid from the first three or four days subsequent to confinement, had now become very offensive; the secretion of milk was nearly suspended; the pulse was frequent, hard and vibratory; alternate rigors and flushes of heat, with great thirst and restlessness, were experienced; the urine was scanty and high coloured; the bowels constipated; the tongue was slightly coated, and of a whitish colour.

The treatment was commenced by bleeding f[illegible]the arm, until a decided impression was made upon the general circulation; the bowels were then freely opened by castor oil administered during the day, and the limb was enveloped in flannel, wrung out of warm vinegar. To procure rest, a grain and a half of opium were given at night. Her diet was restricted to simple barley water and thin oat meal gruel. The use of the castor oil, the opiate at night, together with the fomentations to the limb, were continued perseveringly for five days, but without the least apparent advantage. The fever, pain and swelling were undiminished. The patient reque[illegible]ted a change, and I was very willing to gratify her. The limb was therefore directed to be covered with linen cloths wetted with a weak solution of the acetate of lead; but to prevent too great a shock from so sudden and great a change, the lead water was applied tepid; it however very soon became cold in consequence of the evaporation that took place. At night she took fifteen grains of the Dover's powder—diet as at first directed.

On the following morning I found the patient more comfortable than she had yet been. She had slept some, was less feverish, and thought her leg not so painful. I perceived at this examination that the limb had lost the bluish tinge noticed at an earlier period, and was more white, or rather, perhaps, it approached to the yellow hue—same treatment continued.

On the next day (the 8th from the commencement of the disease) I found her much as yesterday. Her bowels not having been opened for forty-eight hours, she was directed to take an infusion of senna.

9th day, morning. The senna had operated rather severely, and my patient was more feverish, and hardly so well in any respect. The lead water was continued, with the Dover's powder at night.

Next morning (*10th day*). She was decidedly better every way; fever less; the swelling of the limb appeared to be subsiding: and the patient's spirits were quite excited. Although her bowels had not been opened for thirty six hours, nothing was given for fear of disturbing her present comfort.

11th day. Patient much the same as yesterday—lead water still continued; calcined magnesia ordered for the bowels; and the Dover's powder at night, if necessary to procure sleep.

12th day. Magnesia operated kindly, and the swelling in the leg considerably decreased; but the patient now complained of pain shooting down into the ham and leg of the opposite side. Fearing that the lead water might be repelling the disease too rapidly from the right limb, it was laid aside, and the leg and thigh wrapped in dry flannel.

13th day. Left leg and thigh considerably swelled, and exhibiting the characteristics of the right, but in a much less degree. The lead water was applied to this, as to the first, tepid, but permitted to evaporate constantly; so that it soon became perfectly cold. A purge of magnesia was also ordered.

14th day. Both limbs appear nearly equal in size; but with this great difference. The right thigh and leg are but very little painful; the left exquisitely so: the right pits, on pressure being made with the finger, and the whole surface is far less glossy than some days ago; the left limb is tense, too painful to bear indenting with the finger, and is very smooth and glossy.

20th day. The treatment has been continued as before; magnesia occasionally to open the bowels, lead water to the left limb, dry flannel to the right one, an opiate at bed time, with a diet consisting of crackers and tea, thin gruel, or mush and molasses. The right limb is but little altered since last report; it is less painful, but much swelled, œdematous, and almost powerless. The left limb is still tender, and occasionally painful, but not quite so glossy. The treatment directed to be continued, with the addition of bathing the right limb with warm rye whiskey three times a day.

25th day. The swelling has abated considerably in the left limb, and the pain is quite gone; it is however still weak, and somewhat œdematous. It is now smaller than the right, which latter continues much enlarged, very feeble and œdematous. The lead water to be discontinued, both limbs to be rubbed with volatile liniment, and wrapped in flannel. Diet to consist of light soups, oysters, tea and toast, chocolate, &c.

From this date, the general course of treatment consisted in endeavours to restore tone to the limbs and strength and vigour to the general system. The patient was therefore as early as possible taken out daily in a carriage; she was at the same time allowed a diet consisting of the most nourishing and digestible articles, together with the moderate use of madeira and port wines. Her limbs were bathed in warm rye whiskey, to which camphor was sometimes added, and after the lapse of a few weeks, they were pretty actively stimulated by frictions with the flesh brush, powdered mustard, &c.

By this plan her health was gradually restored. In two months from the commencement of the attack, she was able to walk the room unassisted; but it was for several months longer before all the swelling and unnatural weakness disappeared from the right leg.

Remarks.—The patient's breasts were regularly drawn by the child during the whole period of her illness, although the quantity of milk was small, even after her health began to improve: the lochial discharge subsided on the ninth day, but remained fetid to the last.

This woman was delivered of a second child, by another practitioner, about five years after, and had, as I have learned, a very painful and tedious time, but no return of the swelling in either leg.

Case 2.

On the 20th of the seventh month (July) 1818, M—— E———, the wife of a country storekeeper, was delivered by a midwife of a living child. She was about thirty years of age, and it being her first confinement, her labour, I understood, was tedious, but not unusually severe.

She was of a delicate and relaxed habit, apparently labouring under functional, and perhaps organic derangement of the liver. She had, previously to her marriage, lived by her needle, and her constitution had evidently suffered from her sedentary course of life. On the 20th day from her confinement, I visited her for the first time, in consequence of her great indisposition. It was stated to me that she had laboured under more or less fever from the time of her delivery; that the lochial discharge had been very scanty and highly offensive, and that for the last five or six days it had entirely disappeared. The secretion of the breasts, which had been sparing from the first, was also nearly suppressed. Her right thigh and leg, with the labium pudendi of the same side, were at the time greatly swelled. The swelling had commenced one week previous to my visit, and from that time the patient had scarcely ever slept. The pulse was small, frequent and hard; her skin hot and dry; the tongue slightly tremulous, not very dry, moderately furred, the margins white, the centre inclining to brown. Bowels loose, and the discharges watery; urine scanty, light coloured and depositing very little sediment. The affected limb was about one third larger than its ordinary size, of a deadly pale colour, smooth and glossy, and painful beyond description. So acutely sensible was the part, that she could not bear the slightest motion; and she seemed in agony all the time that I looked at it, lest any one should touch it. I was very anxious to pass my hand over its surface, and particularly along the course of the absorbents and great vessels, that I might discover if possible their condition. But it was in vain; she seized my hand if I but pointed a finger toward her.

There was also a good deal of tenderness all over the lower part of the abdomen, with the feeling of soreness within the pelvis.

The right iliac region was particularly painful, especially when pressed upon. I was unable to ascertain accurately the condition of the inguinal glands; but from her own account, and from her total unwillingness to let me examine the part with my fingers, I had no doubt of their being very much affected.

Her nursing had been of the worst kind. While she could eat, she was indulged with whatever inclination pointed out, or accident threw in her way. Nor had she escaped being well drenched with hot teas and hot toddy, in order to promote lactation and the uterine discharge.

The treatment of this case was commenced by abstracting eight ounces of blood from the arm, the application of a blister to the groin, and of flannels wrung out of a strong decoction of hops, over the abdomen and the affected limb, often renewed. At the same time calomel and the Dover's powder were given internally, in the proportion of half a grain of the calomel to four of the powder, repeated every two hours. The next day I was pleased to find that she had perspired freely, had slept several hours, that her bowels were composed, and her feelings far more tolerable. The calomel was now omitted, and the Dover's powder given alone in doses of five grains every six hours. This course was continued until the tenth day of my attendance, using the warm fomentations occasionally, and opening the bowels every other day with either castor oil or calcined magnesia; her diet being all the while of the most simple kind. At this period (tenth day of my attendance) her fever seemed quite subdued; the acute feelings both in the abdomen and the limb were greatly relieved, and the integuments of the latter were much relaxed; her breasts recommenced secreting milk, and her appetite was returning. Flattered by these appearances, I believed that a few days more would restore my patient to her feet; and to accelerate this happy result, the limb was directed to be bathed twice a day in warm rye whiskey, and then wrapped in dry flannel. This delusion however lasted but two days. She was then attacked with a severe pain in the calf of the opposite leg, extending thence to the groin. In a few hours more the limb began to swell, and all the symptoms under which she had previously laboured returned; but in a less violent degree. She did not, it is true, complain of pain in the iliac region of the now affected side, nor of much in the groin; but there was evident swelling of the limb, and this swelling was without redness, and the whole member was acutely sensible; the febrile symptoms also were manifestly aggravated.

The pulse not seeming to admit of much direct depletion, bleeding, in this attack, was omitted; and the treatment was commenced with a purge of the sulphate of magnesia and fomentations of hops to the affected limb. Three days passed in this way without any visible alteration, when she became impatient, and I determined to change the treatment. The whole inflamed limb was now enveloped in linen cloths wet with lead water. The coldness of the application gave a momentary shock, which alarmed the patient, and admonished me to avoid its repetition; therefore the lead water was directed to be applied tepid, or almost warm, so that the only cold experienced should be the result of evaporation, which was however checked in some measure by additional dressings to ward off the air. In this manner the evils to be apprehended from a too sudden reduction of temperature were avoided.

The application produced all the beneficial effects that were desired. Immediate comfort and relief were the happy consequence of this course; and with no other treatment than the lead water applications, made colder as the feelings of the patient would permit, rest, low diet, and one or two purges of the Epsom salt, all the acute feelings in the last affected limb were removed in less than a week, and the patient was able to bear some weight on it upon the floor.

Case 3.

E—— F———, aged thirty-five years, was delivered on the —— day of the twelfth month (December) 1824, of a living but sickly child, after a moderate labour of three hours continuance. Her labour differed but little from what she had experienced in two former confinements. Her health had not been quite so good for some weeks previous to the last accouchement as ordinary, although it was by no means bad. She had more fever, less appetite, and greater restlessness at night than she had been accustomed to feel at such times, all of which were supposed to have been produced by an unusual degree of exercise in the management of her family affairs. To relieve these symptoms, she was twice bled during the month preceding confinement.

For the first week, that followed her delivery, nothing unusual was observed, excepting the continuance of the slight febrile symptoms by which she had been previously harassed, and an unusually offensive discharge per vaginam, resembling thick, muddy water, and of a greenish colour. To remove this condition of things, her diet was kept very low, her bowels were well opened by magnesia, and the vagina was frequently washed out by injections of milk and water.

On the tenth day (subsequent to parturition), her uterine discharge had entirely ceased, but she still had a little fever, and complained of a good deal of uneasiness about the pelvis, and in the left flank. Apprehending that these feelings might be owing to a too early subsidence of the lochial discharge, warm fomentations were directed to be made to the abdomen and vulva, and copious draughts of warm water and molasses to be taken internally. This plan, however, produced no perceptible benefit, as she had a chill in the course of the night, followed by an aggravation of the previous symptoms. At my visit in the morning, her pulse being rather active, I bled her moderately from the arm, and directed half an ounce of the sulphate of magnesia; to be repeated, if necessary, in the afternoon.

In the evening I saw her again, and learned that the medicine had operated well. Still, however, the feeling of soreness about the pelvis was unpleasant, and she now began to complain also of shooting pains in the left groin, with a feeling of numbness down the thigh. The fomentations were directed to be repeated (their application having been omitted for some hours), the patient to be nourished altogether upon thin gruel and barley-water, and her bowels opened in the afternoon by a mild injection.

Notwithstanding these means, I had the mortification to find, at my visit on the following morning, that all her bad symptoms were increasing. The discharge from the uterus had not returned in the least; and her breasts, the secretion of which had all along been very scanty, had now ceased to perform their office. The pain in the groin, instead of being transient as the day before, had become permanent; there was likewise severe pain in the ham and about the insertion of the popliteus muscle. The thigh was also perceptibly swelled and very tender to the touch; and there was constant fever, with but a slight remission towards morning.

There remained no longer any doubt as to the character of the complaint. The fever, the pelvic irritation, the pain in the groin, the swelling and extreme tenderness of the upper part of the thigh, without any discoloration, induced me at once to consider it a case of "*phlegmasia dolens.*" Influenced by what I had seen in the two former cases, and having at the time of treating the last case consulted several authors on the subject, and compared their remarks with my own observations, I was prepared to adopt a more prompt and systematic treatment than in the preceding instances.

Having adopted the position, which I have endeavoured in my former paper to support, that the disease consisted in *an engorgement* of the lymphatic vessels, with inflammation and obstruction in their glands, no time was lost in endeavouring to relieve the inguinal glands by the application of leeches, aided by the operation on the bowels of a dose of the sulphate of magnesia. These means produced very promptly a mitigation of the pain; yet in the evening (eight hours after) it was but little less severe; and the whole limb was considerably swelled, even to the foot; it was hot, elastic, and very tender, although as white as any other part. The whole limb was directed to be covered with strips of linen dipped in tepid lead-water, to be repeated as often as they became dry. The patient was ordered at the same time to be kept perfectly still, to live on a very low diet, and to have her bowels opened daily by enemata. To procure rest at night, she took at bed time fifteen grains of Dover's powder.

This plan was continued perseveringly for one week, at the expiration of which time nearly all pain had left her; the extreme tenderness was entirely relieved; and instead of that tense and elastic condition, which was observable at the early stage, the parts had become relaxed and would pit a little upon pressure being made with the finger; but these digital impressions left behind them an unpleasant soreness, and a perceptible redness of the spots at which they had been made. The lead water was continued, and a scruple of the supertartrate of potass, with half a scruple of powdered jalap, substituted, as a daily purge, for the injections. By this treatment, every vestige of the disease was relieved in one week more, excepting a weakness and feeling of numbness in the limb, which gradually passed off with the assistance of dry frictions, moderate exercise and nourishing diet. This patient has been confined twice since that period, without having experienced any return of the disease, or any inconvenience from the former attack.

Case 4.

E—— E——— was delivered, on the 10th of 3d month (March) 1826, of a dead child, after a moderate labour of three hours continuance. Her health previously had, generally speaking, been good, and no particular reason could be assigned for the death of the child, except her having carried a number of heavy loads from market, during the advanced period of her pregnancy, whereby she was greatly fatigued at those times, and to which she attributed her misfortune. The room in which she lay was small and open, and the floor in almost immediate contact with the ground. The condition of the chamber, and the circumstances of the patient, rendered it necessary to warm the place by a common iron stove, in which the cooking for the family was performed. Hence the room was frequently heated far beyond what was proper, and sometimes suffered to pass to the opposite extreme. From these and other like causes she experienced, on the sixth day after parturition, a heavy chill, succeeded by high fever, headach, pains in the limbs, &c.

To relieve these symptoms she was bled from the arm, her bowels were freely opened, and as the lochial discharge had ceased to flow, her feet were bathed in warm water, and warm fomentations were applied to the abdomen and vulva. On the following day she appeared to be much relieved; but on the morning following that she had another chill, complained of soreness within the abdomen and about the pelvis. By the fomentations in the first instance, the lochial discharge was partially restored, although quite offensive; but, directly after the second chill, it ceased altogether. It was therefore re-solicited by the pediluvium, warm applications to the abdomen, vulva and thighs, together with copious draughts of warm cremor tartar whey. At my visit on the following day, I regretted to find that, notwithstanding the means employed, the patient was evidently growing worse. There was great soreness about the passage of the round ligament on the left side of the abdomen, extending to the groin of that side, with soreness and pain in the thigh and leg, particularly when moved. Twenty-five leeches were directed to be applied to the groin, and the bowels to be freely emptied by injections; her diet to consist of thin gruel and barley-water. In the evening of the same day I saw her again, and found to my regret that the leeches had not been applied. The thigh was evidently swelled, and the pain was very acute in the upper and posterior part of the leg, about the insertion of the popliteus muscle. As a substitute for leeches, a blister to the groin was directed, and the limb to be covered with strips of linen wet with tepid lead-water. Her bowels having been well opened, and not having slept much for the last two nights, forty drops of laudanum were allowed to be given at bed time. Next morning the whole limb was swelled down to the very toes; it was nearly double its ordinary size, pale, smooth and glossy, and exceedingly tender and painful; she had great thirst, hot skin, frequent and rather hard pulse, and much restlessness and anxiety of countenance. The blister had raised well, but she had not slept, nor had the lead-water been applied with any regularity. The secretion of the breasts was very sparing, although they had been regularly drawn.

She was now bled twelve ounces (the blood looked sizy), and directed to take six grains of the nitrate of potass with the third of a grain of tartarized antimony every two hours, and to have the lead-water applied diligently.

Having had an opportunity of examining this case while the swelling was only in progress, I was enabled very distinctly to discover an enlargement of the lymphatic glands in the groin and along the inside of the thigh, before general swelling of the limb had taken place; I was not, however, able to trace the lymphatic vessels themselves by any prominent lines, or other means than the patient's feelings of experiencing the greatest sensation of soreness along the precise course that the principal lymphatic trunks are known to pursue.

That the history of this case may not be extended to the length of the preceding ones, I will briefly state that the treatment which was pursued, after what has been detailed, consisted in purging every other day with jalap and cremor tartar, low diet, lead-water to the limb, and ten or fifteen grains of Dover's powder at night, when necessary to procure rest; it serving the double purpose of inducing sleep, and carrying off the morbid heat of the surface, by gentle diaphoresis.

All her acute feelings disappeared in about two weeks; after which, stimulating embrocations, dry frictions, &c. were used to give tone and energy to the part, and nourishing diet, with bark and port wine, to restore strength to the general system.

In the histories which have been given of the preceding cases, I have endeavoured to present to the reader's attention every circumstance that fell under my notice, calculated to shed light upon the nature of the disease, or the causes of its production. In doing so, I may have rendered myself liable to the charge of tedious and useless detail: brevity, however, is but a bad apology for the want of perspicuity; and it is better, perhaps, to tax the reader's patience with a little prolixity, than to leave him uninformed of small but frequently important links in the chain of causation. By this course he is enabled to reason for himself upon the facts presented to his view, and to judge how far the phenomena observed are referable to the regular progress of the disease, or chargeable to accidental and complicating circumstances.

Those who have read the paper of which the present is a continuation, or who have made more extensive inquiries into the nature of phlegmasia dolens, must have been struck with the diversity of opinions which have been entertained in relation to its pathology. As a consequence of this diversity of opinions amongst authors, their practical directions are found to be not less various and contradictory.

Believing that the evidence furnished in the preceding pages, supported by the facts which may be drawn from the majority of those who have witnessed the disease, sufficiently establishes the position that it consists in inflammation of the lymphatic glands of the affected limb, with engorgement of the vessels which pass through them, it only remains for me to indicate the practice which shall be consistent with this opinion, and in some degree sanctioned by experience.

Before proceeding to speak of the curative means adapted to phlegmasia dolens, it may be proper to notice the most prominent measures for its prevention. These consist in the careful avoidance of all causes of febrile excitement, preceding or at the time of confinement; and the prompt employment of suitable means to remove that condition whenever it may occur; in the proper management of labour—strictly abstaining from any attempt to call the uterus into violent action before the os uteri and external parts are prepared to yield, whether by encouraging the patient to exertions for that purpose, by the use of ergot, hot drinks, or manual interference.

Newly delivered women should be carefully guarded against cold, dampness, or too great heat: they should not be permitted to go out too early, and their first attempts should be short, during clear and mild weather, and when well protected by suitable clothing, especially in cold climates, or variable seasons; and their breasts, even when it is not designed for them to suckle, should be carefully drawn, to keep up their secretory action, until the system has recovered from the irritability consequent upon the puerperal state.

Treatment.—From the decidedly inflammatory character of phlegmasia dolens, especially in this country, the necessity of early blood-letting, guided in extent by the constitution of the patient and severity of the symptoms, must be apparent: at the same time moderate purging with the neutral salts, low diet, and the most absolute rest, should be enjoined. While thus employing remedies to act upon the general system, we must not neglect topical means. As early as possible after general bleeding, we should endeavour to relieve the affected lymphatic glands, particularly those of the groin, by the application of leeches over them; and it is probable that advantage would be derived from their more extensive employment.

After swelling, heat and soreness have commenced in the limb, it should be covered with cloths frequently wet with weak lead-water; and to prevent the production of a chill, it will be advisable to have it tepid in the commencement. Warm applications, as flannels soaked in hot vinegar, have been used by many practitioners, and are recommended by no less authorities than Professor James and M. Capuron; but they have not succeeded so well under my notice, nor is the practice consistent with our general treatment of inflammation. Yet it must be confessed that warm, and even hot applications, particularly in the moist state, do sometimes give relief in inflammatory cases of great severity, when cold is productive of mischief; but such facts are exceptions to a general and well founded rule.

In addition to the remedies already mentioned, advantage will be obtained from the use of some mild febrifuge, which shall possess a diaphoretic property; as small doses of the nitrate of potass, with tartarized antimony; or the saline mixture with a few drops of antimonial wine in each dose.

When the case is at all severe, the patient cannot sleep without opium in some form; and when depletory measures have been carried to a proper extent, it is eminently useful. I have seen the most benefit to result from it when combined with ipecacuanha, in the form of Dover's powder. It is then not only anodyne, but actively diaphoretic.

If the course of treatment which has now been sketched is fully employed, the urgent symptoms, as fever, pain, &c. will be found to yield in the course of eight or ten days; but much care will be necessary to continue the antifebrile treatment until the inflammatory stage shall have entirely gone by; otherwise convalescence will be unnecessarily postponed, and the patient's sufferings greatly increased. When the pain and tenderness of the limb have been so far relieved as to permit some degree of motion, recovery will be greatly accelerated by pretty active purging; and for this purpose, a combination of jalap and the supertartrate of potash will be found admirably adapted. In the early stage of the complaint, there is always a good deal of tenderness and irritability of the pelvic viscera, and active purging at such time would be more likely to increase than to relieve that condition. Such a course would also be productive of immense inconvenience to the patient, by causing motion at a time when the most absolute rest is demanded by the pain and suffering which she experiences on the slightest change of position.

Emetics have been strongly recommended by some writers in the treatment of this complaint; but the objections to purging, at an early period of the disease, apply not less forcibly to this class of remedies. When the first or inflammatory stage has been in great measure subdued, and a stiff and torpid state of the limb remains, emetics, like cathartics, may be highly serviceable in arousing the action of the absorbents and the dormant powers of the system. These will be the more necessary when there is an œdematous condition of the limb. At this stage, advantage will also be derived from substituting mild stimulants for the lead-water. Rye whiskey, soap liniment, camphorated spirits, and frictions with dry flannel or mustard flour, will be found among the most useful of the kind.

In very protracted cases, where there is a chronic enlargement of the limb, it is highly probable, from the well known influence which mercury possesses over glandular and lymphatic diseases, that it would prove a powerful remedy. In fact we are not without testimony on this point, as Dr Hosack has employed it in this disease with very favourable results.

In regard to diet, it is scarcely necessary to speak. The necessity for its accommodation to the different stages of the disease and conditions of the patient's system will be obvious to every one. It has already been said, that during the acute stage of the disease, it must be of the lightest and least stimulating kind; and it is equally manifest that when that period has gone by, it should consist of more nourishing articles. In addition to better diet, during convalescence, the use of mild tonics, as bark and the mineral acids, with the moderate use of port wine, exercise in the open air, &c. will greatly assist in restoring the system to its natural energy and to the healthful performance of its necessary functions.

ARTICLE X.—*On the Administration of Tartarized Antimony, in large doses, in some of the Phlegmasiæ.* By JAMES KITCHEN, JUN. M.D.

During my residence in Paris, a few years ago, in the pursuit of my medical studies, I had frequent occasion to visit the various hospitals for which that city is so preeminently celebrated, and to attend to the excellent clinical remarks of the best teachers of medicine and surgery attached to those institutions. I was more particularly, however, in the habit of paying attention to the clinique of M. LAENNEC, a celebrated professor of that metropolis, and the well known author of the "Auscultation mediate," a method of ascertaining diseases which is too much neglected by physicians in general. In going the rounds of his hospital for the first time, my attention was chiefly attracted by his boldness in the exhibition of remedies, and nice discrimination in the diagnosis of disease, more particularly of affections of the chest, through the instrumentality of his new invention, the stethoscope. His accuracy and ease in the detection of the minutest vestige of disease by this instrument were really astonishing, and were well calculated to impress forcibly on the mind of any one, in the least conversant with medicine, its invaluable aid.

What, however, more particularly rivetted my attention, was his administration of large doses of tartar emetic, in the various phlegmasiæ that fell under his notice, chiefly in pneumonia, and that too in the majority of cases, without the least vomiting or nausea, and with the most marked and unfailing success.

Having heard much of the BROUSSAIS doctrine from various sources, having followed that celebrated professor through his wards and attended his lectures for some time, having thus "many a time and oft" heard from his own lips that almost all diseases are more or less implicated with a gastro-enteritis, having heard of the dreadful consequences attendant, in the majority of cases, upon the ingestion of most of the articles of the materia medica and more especially of such as are aptly termed the heroic remedies,—from these circumstances, I say, as well as from the general timidity and expectant practice of French physicians in general, I must confess that, although an American graduate, I was somewhat startled, and immediately came to the resolution to watch his practice, its effects upon his patients while living and, in case of death, in the autopsic examination, that I might thus arrive at a just conclusion, and be able to steer with somewhat more certainty between the two conflicting doctrines, or methods of practice, and thus render to each its due share of danger and efficacy.

The result of my views in relation to this method of practice I shall now lay before my medical brethren, with all that deference which I am sure every young practitioner must feel, when for the first time he undertakes to commit an essay to a periodical, where, he well knows, it will be read by many criticising eyes, and that too of practitioners so much older than himself, and so much his superior in all medical attainments. Although in this general view of the case, he may be somewhat abashed, he still feels persuaded, that to some he will be able to present something new, and perhaps induce others who have already heard of the practice to give it a trial, and thus not hastily condemn because it does not exactly suit their view of the case; for it is the result of our practice that we should chiefly look to, and not suffer ourselves to be drawn away by any theory or system how plausible soever it may appear on paper or in debate, provided it does not answer our views at the bed side, the only crucible of all doctrines.

Indulgence must be claimed, from the circumstance of my writing altogether from memory, not having kept any notes of any consequence. M. Laennec held his clinique in a portion of the Hospital of La Charité, a small but excellent edifice, built for the great Corvisart during the revolution. It is to this department that all the diseases of the chest are brought and are under the immediate care of M. L. During my visits, it contained about fifty beds, always occupied, and thus afforded a fine opportunity for the study of that class of affections, under so able and celebrated a master.

In cases of pneumonia or inflammation of the parenchyma of the lungs, (for the best description of this disease consult his work on auscultation mediate,) if the attack was violent, it was customary to bleed to the extent of twenty ounces, and immediately to commence with the administration of tartar emetic, gr. i. in sweetened orange flower water ℥ ii. a iii. every two hours during the day, and to put the patient on strict diet. Thus during the day the patient was to take about six grains of tartar emetic. During the night, except in violent cases, the medicine was suspended and the patient allowed to sleep. He recommenced next day in the same manner, and increased, if advisable, to nine grains, always increasing the vehicle in proportion. Should the first or second dose vomit or purge, it was still continued, and generally speaking, the system would soon tolerate it and the most decided benefit would result. In the course of a day or two, and particularly if the case was violent, an increase of the dose was made, raising it half a grain every two hours and always, as before remarked, increasing the quantity of the vehicle in proportion. Sometimes, though rarely, it was impossible to make it stay on the stomach or sojourn in the bowels, it either coming up by vomiting or producing profuse stools soon after its ingestion. In such cases it was always discontinued and the kermes mineral substituted in its place. M. L. however placed very little confidence in this last; he has given it to the extent of forty grains every two hours, but without any very decided effects. Generally speaking, when the system could not tolerate the tart. emetic, the attack was mild and little danger to be apprehended from it: but on the other hand (and this is certainly a beautiful and gratifying view of the subject) where the case was of tremendous violence threatening to suffocate the patient at every respiration, the remedy acted more like an opiate than an emetic; the patient seeming to become comparatively free from uneasiness and that dreadful anxiety which often accompanies affections of the chest, as soon as it had time to exert its customary action. One case I particularly remember: it was an exceedingly violent attack of peripneumony of the right lung and a portion of the chest; the man was almost in a state of suffocation; he was immediately bled to the extent of ℥ xx. and the tartar emetic administered, as detailed above, in grain doses every two hours. At the next visit the most marked benefit was observable; the medicine had acted slightly on his bowels: in the course of the treatment the remedy was raised to nine and twelve grains per diem; this last, however, was soon discontinued, as it affected his alimentary canal with too frequent purgings. From a note found in a small memorandum book, I find that this man remained under treatment one month, that he took in the whole three hundred and twelve grains of tart. emetic, an average of about ten gr. per diem: that, by the stethoscope, nearly the whole of the right lung had suppurated, the left however was perfectly sane; and this diagnosis I am inclined to believe correct, not only from the duration of the malady, and the immense discharge of matter, even from the moment of his admission till his final restoration, but likewise from the well known accuracy of M. L. in detecting scarcely without a failure, lesions of texture, as proved beyond a doubt, whenever, unfortunately, the cases proved fatal, and autopsic examinations were made, as in the French Hospitals is the case with every such subject. I have mentioned, that the man's bowels were somewhat disordered by the medicine; less so on the reduction of the dose; however, they soon returned to their normal condition; his appetite even became voracious, and he was constantly beseeching the Dr to increase his diet, that he could not exist under the small portion of food that was measured out to him. Under these circumstances he had been raised to the full diet of the house, towards the latter end of the treatment; it was soon however reduced, as his system was too feeble to bear such a portion; there was no nausea, no uneasiness of the bowels, nothing like inflammation nor even irritation, although he had almost lived upon the medicine, and had taken in the whole, as mentioned above, three hundred and twelve grains. It will be supposed by some, perhaps, that this does not speak much in favour of the remedy, as the patient lost by suppuration a large portion of his right lung; it must be remembered, however, that the case was an extremely violent one, occupying the whole extent of one lung and a large portion of the other, and moreover that pus was formed even upon his admission into the house and before any thing was done for him. Numerous other cases came under my notice, treated in the same manner, and with much more happy results; none however being so violent and urgent as the one above, their individual traces are not so strongly engraven on my memory. Moderate cases, or even violent ones, when seen in due time, were always cured without a trace of organic lesion; and even, in some few cases, when the lungs, from some cause or other, were exceedingly prone to run into suppuration, the lesion was generally of small extent, and would never have been suspected either by the patient or practitioner, had not the stethoscope unveiled it to the view of the latter.

Since my return to this city, I have tried it in some few cases—in some with much benefit—in others, where the system was not tolerant, of course I had to abandon it and resort to other remedies. I shall now relate a few cases in which I have made use of the tartar emetic. Mr S. sent for me to see him—he had been unwell three or four days—had been bled ℥ xii. purged and had a blister on his chest. He was labouring under the symptoms of pneumonia with a slight touch of pleurisy. It is unnecessary here to relate these symptoms, as it would unnecessarily swell the report. I ordered the following prescription:—

℞.—Tart. Antim. gr. xvi.
Aq. Cinnam. ℥ viii.—M.

a table spoonful to be taken every two hours in about the same quantity of sweetened water. The first table spoonful brought up much green bilious matter: he went on however and took in all about thirty grains with continued relief; for on the third day, the abundant viscous expectoration had nearly ceased; this viscous expectoration, peculiar to pneumonia vera, was very abundant the first two days, but on the third had nearly ceased, a revolution having I suppose taken place: having still some uneasiness inside, a blister was ordered which soon afforded relief and the patient was discharged. This was a mild case, it however shews the efficacy, in some degree, of the tartar emetic.

The next case I shall relate was that of a child aged two years—had been unwell some days before I saw it. I soon discovered violent inflammation of the lungs—there was high fever—pulse hard and strong—tongue white in centre and red round the edges—skin dry—every thing most unfavourable. V. S. ℥ xiv. Calomel. pp. gr. vi. Tart. Antim. gr. ß every two hours, made up as above; blister on breast. Next morning visited the child and found it much worse; the calomel and antimony had been given; the other, in this case and in this particular stage of the case the most essential, had been neglected. I now ordered him to be bled till he fainted, and antimony gr. ß every hour. Next morning I found that he had been bled but only to the extent of about ℥ x. I soon perceived that he was so bad that it was impossible to save him. Antim. gr. ß every half hour. Upon my visit next day I found him dead. In all he had taken twenty-four grains in three days. This case was a very violent one; but had proper attention been paid to what was ordered, I would have almost staked my own existence on a happy result. V. S. should have been practised and that to a large extent; for, in such cases, there is no substitute for it, the antimony being only an adjuvant, but I still think a most valuable one.

The next case was that of Mrs W. I was called to see her April 13th 1826. She had been confined with the influenza some time before for three weeks; she had high fever, pulse hard, tense, pain in head, pain and soreness of left lung, sputa tenacious, viscid, with small specks of pus. V. S. ℥ xv. Epispastic to side, and sweet spirits of nitre and antimonial wine. 14th, somewhat improved. 15th, worse, return of fever, &c., pulse being too weak to bleed, ordered tart. antim. gr. i. every two hours. 16th, much better, had taken, through mistake, gr. i. every hour, without vomiting, and it had even put a stop to a troublesome purging that she had since the the influenza left her. 17th, had sweated all night, tongue still red at point and a little dry in the centre, pulse natural, sputa abundant, very tenacious, of a greenish tinge, streaked with blood: go on with tart. antim. gr. i. every hour. 18th, supports the medicine very well; somewhat improved; tongue cleaner and redness disappearing; cough easier; feels drowsy. She went on much the same till the 21st, when I raised the antimon. to gr. ii. every hour; she took it four times, and vomited the last, when she returned to the old standard; on the 23d, she passed two lumbricoides, as thick as her little finger, according to her account. She went on improving and towards the latter end of the month felt quite restored. May 1st, Cough slight; little or no expectoration; complains of an oppression at the region of heart; the pulse is only 38 and intermittent; as she has palpitation, there is probably some disease of that organ; she now takes the antimony, gr. i. every two hours. May 2d quite well; suspends all medicines and takes plenty of nourishment. During the treatment I did not perceive any suppurative matter, except the first day. She took on the whole one hundred and forty-six grains of tart. emetic, and with considerable benefit.

The last that I shall relate was that of a coloured man, upwards of sixty years of age; was called to see him November 12th 1827: he had pain in left side; pain in head; eyes red; cough; expectoration of tough peripneumonic mucus streaked with blood, there was nearly a pint in the basin; slight vomiting; tongue white in centre, and red round the edges; considerable fever, pulse rather hard, but not very frequent; breast sounds well, except at the seat of pain; pleuro-peripneumonia of the lower part of the left lung; ordered a blister over it, and a table spoonful every two hours of the following mixture:—

℞.—Tart. Antimon. gr. xvi.
Aq. Cinnam. ℥ viii.
Tinct. Opii, gtt. xi.—M.

to be washed down with a little sweetened water; barley water and flaxseed tea as diet. November 13th, he could not support the medicine; one dose vomited and purged so much that he was afraid to venture on a second; he was improved however in every respect;

skin moist; pain left him; still expectorates a tough mucus mixed with blood; I advised him to attempt a teaspoonful of the above. November 14th, much better, but has not taken a drop more of the mixture; no pain; little cough; blister drew very little. November 15th, improving; cough and expectoration very trifling; discharged him. Here it will be perceived that resolution took place very speedily and that too upon the ingestion of but one grain; it must be confessed however that this one grain acted upon him in a pretty harsh manner. He was an old man; and we occasionally come across systems that cannot support the medicine: the remedy however had the desired effect, which was all that could be demanded.

These four cases shew very evidently, that it may be given in this way, not only with safety, but with much efficacy and success. In the first case, it was undoubtedly of much benefit. The loss of so much of the right lung was owing, most probably, to a vomica, although this is ascertained to be a very rare occurrence. The second case was lost entirely by the negligence of the mother. In the third and fourth, it was of considerable benefit. They all shew that it may be given as described, even from a child of two years old to the age of seventy, without the least danger, but on the contrary with much hope of success.

Another inflammatory affection, in which the success of this method of administering the antimony was most marked and evident, was in articular rheumatism, or that species which attacks the joints, and particularly the larger ones. This is an exceedingly unpleasant affection, coming on with the usual symptoms of rheumatic affections, concentrating its force in the capsular cavities of the articulations, and in a short time producing effusion therein. The patients cry out, whenever you attempt to lay your hand on them to make an examination, or even sometimes when you approach the bed—the bed clothes themselves are often insupportable, so acutely sensible to the lightest pressure have the cavities become, through the inflammatory action that is raging within them.

It is in this affection, I say, that I was witness to the most marked and evident success, from the administration of antimony in large doses—one case, and one will be sufficient to relate here, I well remember. The patient was admitted about an hour before the regular visit, at 10 o'clock in the morning. As soon as M. L. examined him he ordered tart. antim. gr. i. every two hours, to be given in the usual way—even before bed time, and consequently after the ingestion of only six grains, according to the report of the house student, he was so much relieved, that he left his bed, and walked up and down the ward several times; the consequence of which was, that, the next morning, he was worse than ever. The antimony was again given, and the same effects followed; in a day or two he was discharged perfectly well. I was never more astonished and better satisfied with the powerful effects of the medicine, and of the certainty of its operation in any disease, than I was, in this instance, of this preparation. The certainty of the cure being performed by the antimony, and that too in so short a space of time, and in a disease, which, to the usual method of treatment, is well known to be very rebellious, drove completely away from my mind all doubts as to its efficacy in this, as in several other diseases, and left no further desideratum as regarded its treatment. Happy, thrice happy indeed, would it be for suffering humanity, and most gratifying would it prove to the practitioner of our art, were there allotted, by the bountiful Giver of all good, antidotes to every disease, as sure in their effects, and as quick and permanent in their cure, as this preparation of antimony is to articular rheumatism. I use this strong language, because the above is not a solitary case, nor is it one successful one among many failures—I have seen many cured in a similar manner, and with equal promptness, and so well convinced was M. L. of its certain power and effect, that he used to call it, in this disease, the medicine par excellence, as leaving nothing further to be desired. The effused fluid is almost always absorbed in one or two days, and sometimes, according to the report of M. L. in six or eight hours—an effect of the medicine which is really extraordinary.

Since my return to this city, I have not come across a single case of the kind. Of rheumatism, attacking other parts, however, I have; and am disposed to think favourably of tartar emetic in several cases in which I have administered it, when it would rest on the stomach. For unfortunately, from the few opportunities I have had in this last description of rheumatism, the system does not appear to tolerate it very well; hence the practitioner is baffled in its use. I have found, that, when it was tolerated, it was of considerable service.

It is likewise recommended in other inflammatory affections, of which, however, I have very little to say, as I was not witness to its use in any other than those I have mentioned.

The other phlegmasiæ, in which it may be used, are iritis, deep seated inflammation of the tunics of the eye, erysipelas, hydrocephalus acutus, &c. In this last, it is said to be superior to the mercurial practice. I must confess, however, that having been taught a different method, that is the mercurial practice, and all my brethren using the same, I have been too timid to attempt an innovation, in a disease of such violence and such fatal tendency. I must, however, at the same time, acknowledge, that in the few cases that have come under my notice, the probability is, that the emetic might have been of equal service with the mercury, and that the very next case that I shall be called to treat, I will endeavour to test its efficacy. There is not the least question in my mind that, if the stomach will bear the dose, it will prove of essential benefit; but, unfortunately, in these cases the stomach is always more or less affected, and hence will arise a difficulty, which possibly may be insurmountable.

According to the opinion of some physiologists that the brain has no absorbents, connected with the views of M. L. as to the modus operandi of the antimony being by absorption, I should have, to be sure, very little hopes of success. Fortunately, however, for this description of cases at least, the former opinion is a mere supposition, admitting of no positive proof, arising only from negative facts, and more than counterbalanced by the general laws of the animal economy, and the particular one of growth and nutrition in that organ, as well as in other parts of the frame.

In addition to what has been related, M. L. was in the habit of administering it in the same way in cases of palsy, particularly when the consequence of apoplexy. I will mention one case. The right arm alone was affected, so that the patient had no power over it whatever—it was materially benefited by the treatment. This man had arrived at the quantity of ʒ i. during the day, taking five grains every hour. It was at this time that I left Paris, and consequently heard nothing more of the case. At the commencement of the treatment, it was totally impossible for the man to give his arm the least motion—the last time I saw him, he could lift it half way up to his head and was improving every day. It is presumable, that this amelioration was produced by the medicine, as he had taken nothing else. To say the least of it, it is worthy a trial in these cases. M. L. used to relate that, in some instances, he had performed perfect cures—in others he had failed: but cannot every physician say the same of every article of the materia medica, however much it may have been boasted of.

Remarks.—It will readily be perceived by many of my readers, that the above is no new practice—it has prevailed in Italy since the commencement of the present century, still holds its sway, and is every day gaining new partizans. It is in fact essentially the counter-stimulant method of curing diseases, emanating from the Italian doctrine taught at present by the celebrated TOMASSINI of Bologna, BORDA of Pavia, BRERA of Padua and others, equally well known to the medical world as professors of first rate abilities and practical physicians of acknowledged skill and acute discernment.

The first impulse was given to it by the no less celebrated RASORI, during an epidemic which prevailed at Genoa during the years 1799 and 1800, in which he saw the sad effects resulting from the Brunonian doctrine, which at that time occupied the attention and directed the practice of almost all the medical men of that country. Italy was the theatre upon which BROWN was received with the greatest eclat. His doctrine was well received by the schools of that country, and distributed over its whole surface by the students, who implicitly received, as sacred, what emanated from the mouths of their preceptors. It soon, however, felt a fatal shock—its almost universal prevalence led to more minute examination, and thus by its diffusion its weakness was discovered, and the Italian system was erected triumphantly on its ruins.

This event took place, as mentioned above, about the beginning of the present century. This doctrine, like that of Brown, divides diseases into sthenic and asthenic, or diseases of high and low action: unlike it, however, it considers the former as by far the most numerous class, due to an increase of excitability, or to an excess of stimulus, requiring, in consequence, a certain class of articles, which it calls counter-stimulants, or such as possess a particular debilitating property, acting upon the excitability in a manner opposite to that of stimulation.

The counter-stimulant articles of the materia medica are, after this theory, endowed with a property of lowering the excitement, not however like venesection and purging by the subtraction of stimulus, but by depressing the excitability of the fibre by a sort of specific property. Among these articles, it will be only necessary here to mention the tartarized antimony: that preparation which I have endeavoured to press on your notice in the foregoing pages.

From this sketch, it will appear, that the phlegmasiæ, being considered as diseases of excitement, or technically called sthenic, require for their eradication the counter-stimulants which act by depressing the fibre and lowering the excitement when in that state; and the more the case is one of stimulus, so much the more tolerance has the system for the counter-stimulant article.

The word tolerance, which I have made use of several times, is derived from the Italian *tolleranza*, which is consecrated, in the language of the Italian doctrine, to express the faculty, which the system possesses, of supporting a larger or a smaller dose of medicine, proportioned to the degree of the disease. Thus, for example, in a case of acute pneumonia, if the patient supports a large dose of antimony without vomiting, he is said to tolerate that dose.

From this imperfect sketch, it will readily be perceived, why the antimony is used in phlegmasiæ, and of the modus operandi of the medicine, according to the Italian theory. The diseases I have mentioned are sthenic; the indication is to use counter-stimulants. Many of these are supposed to have an elective action on different organs, and the antimony particularly on the lungs, hence its utility in pneumonia. What that peculiar action may be, regard being had to the proper dose, it may perhaps be difficult precisely to say—that it has an action on those organs there is no doubt, for in cases of poisoning from that article, the lungs are always in a state of inflammatory action, as proved by ORFILA in his experiments—in this case and in proper doses, suffice it for us that it is beneficial, without knowing whether it be owing to its counter-stimulant property or not—this is the solution of the question by RASORI, TOMASSINI and others. M. LAENNEC, however, although, in these instances, he follows the practice of these celebrated men, does not adopt their theory. His opinion is, that it exerts its beneficial influence, by producing an extremely active absorption, which causes, in a very short space of time, in many instances, a complete resolution of the inflammation; for in many cases of articular rheumatism, where there is considerable effusion within the capsular cavities, the antimony produces an absorption in a day or two, and even according to the observation of M. L. in some instances, in six or eight hours.

Another explanation of its modus operandi is given by the partizans of the French doctrine, viz. that it acts by producing a revulsion on the stomach and intestines, and thus, by irritating the mucous surface of the canal, elicits the inflammatory action from the lungs to locate itself on those organs According to this summary way of loosening the knot, we have their favourite gastro-enteritis produced, which has the power, peculiar in this instance, of doing away a similar affection in the lungs, whereas, in all other inflammations, its addition becomes an aggravating cause. By what we hear and read of this doctrine, however, we should be a little puzzled to say which is the most dangerous affection, a gastro-enteritis or a pneumonia, and yet in this case it appears to become very trifling. Is this however a true and correct statement of the case? Let us inquire, what evidence they have, to ground them in such an assertion—and this we shall do in very few words. In the great majority of cases, is there vomiting or purging? No. Is there any uneasiness or irritation of that chain of organs? Not the least. Is there any inflammation detected, when, unfortunately, in the course of such treatment, a patient dies? Not a vestige—since according to M. L.'s testimony, grounded on much experience and very extensive pathological observation, derived from autopsic examinations in a large hospital, as also from the testimony of others equally celebrated, particularly in Italy, where, from the first dawnings of our science, dissections have been faithfully made, and pathological anatomy particularly attended to; from the testimony of such men, I say, we learn, that in the vast majority of instances, the mucous surface of that canal is, upon examination, in a perfectly healthy condition, and so far from being in a state of what could, upon the most extensive latitude of the term, be called inflammation or even simple irritation of the French school, it is very often whiter than usual. The most sensible apparent effects of the remedy, are, in some cases, an increase of perspiration and of urine, and in all, a diminution of febrile action, (which would not surely be the case, if it produced a gastro-enteritis, the great and extensive generator of fever) and a prompt loss of flesh and strength. It acts, likewise, it is said, when administered in baths. If it does act by revulsion, it ought to do so in every case, which is very far from being the fact.

It is used in Italy by the majority of the practitioners of that country—they laud its effects. In Paris it has been, and is at present, administered by Messrs. KESSLER, LAENNEC, RECAMIER, IADELOT, GUERSENT, and others—the opinions of M. L. I have already stated. M. **Guersent**, who has the charge of a large hospital of children, has lately, in the Archives Generales, published an article on cases of pneumonia in those interesting little patients—he seems pleased with its effects. M. **Peschier**, of Geneva, has given it in pretty considerable doses, and with the most happy and decided effects—he has administered from six to thirty grains in the twenty-four hours, in acute pneumonic affections, and has always found that the larger the dose, the better was the system able to support it, and that small doses almost always distressed the stomach and bowels very much.

Dr **Batchelder**, of the New England states, has also given it in pneumonia—he appears however to have used it particularly with regard to its emetic properties, and sometimes substitutes it for venesection.

Dr **M'Call**, of Nashville, also used it under similar views, in the bilious pneumonies of the south,—he, however, used purgatives along with it, thus evacuating the stomach and bowels and acting on an entirely different principle.

Dr **Cartwright**, of Natchez, in a paper inserted in the Medical Recorder, No. 35, speaks very highly of it, in bilious pneumonia. He gave it in very considerable doses, and those too in the form of pills, or in avery small quantity of liquid. He remarks, that most of the patients will not bear more than five nor less than three grains at a dose without vomiting—in some cases, however, ten grains may be given. Dr C. conceives, that it operates by giving energy to the nervous system, and thus developing excitement, doing away the internal congestion, and producing equilibrium throughout the system. Dr **M'Pheeters**, of the same place, coincides with Dr C. in his views of the medicine, and in the last number of the Recorder is a note from a medical correspondent, in Gennessee, New York, stating his success with it, used according to Dr C.'s views.

From these statements, then, does it not behove the American practitioners of medicine to pay more attention to the free administration of this remedy in some of the phlegmasiæ; as, in this country, they are acknowledged, on all hands, to be of extreme violence, requiring much more active and energetic treatment than the same diseases in other parts of the world. Let us endeavour to elicit some new light, on this side of the water, that we may see our way, in the treatment of this class of diseases, as distinctly and clearly as possible, and thus discover the shortest path to arrive at a favourable termination; for only examine the records of death and see how many melancholy cases there are of extinction of life by the phlegmasiæ.

The antimony had formerly been much used, in doses to vomit, in pneumonia, with success.—Riverius, who flourished in the beginning of the 17th century, the school of Montpellier, Stahl and many others, employed it in this way. Devaugeau, a former physician of La Charité, never resorted to bleeding but always to the emetic, and had as much success as Corvisart, who used bleeding almost to the exclusion of every other remedy. I would here mention, that I would not have my reader suppose, from what I have penned on the subject, that I would recommend this remedy to the abandonment of others, which may be used at the same time, without interfering with it. Although it is the opinion of Rasori and Laennec, that it has sufficient power by itself to eradicate the diseased action in this class of affections, I merely wish to hold it forth, to the profession of this country, as an adjuvant, but that, I must confess, a very powerful one. Where there is high fever, or where the pulse indicates V. S., recourse, unquestionably, should be had to it, and even to topical depletion, and other measures, which, at the time, may be considered serviceable. Bleeding was the first thing that was resorted to in pneumonia. Even repeated bleedings are often of considerable service. It has been said by some, that, after three or four days from the attack, it is of very little effect—others have advised us to bleed till expectoration becomes abundant. With old men and feeble subjects, it is necessary to be circumspect in this mode of relief, and here the antimony is often of essential service. When the heart beats strong, and particularly in the young and robust, it should never be omitted. It is only, however, during the first 24 or 48 hours, according to Mr L. that it is of much service, for often, at the termination of these periods, pus is already formed. T'is certainly a precious resource in the first periods, and then it should be made largely. It is less useful or rather more doubtful in the pneumonia of old people, particularly when following catarrh in adynamic fevers, or when connected with a bilious affection—in these cases, we should be cautious in the employment of the lancet. Here then, in all such instances, where we are not fully justified by the state of the system, the symptoms of the attack, and former experience to abstract blood, recourse should be had to the antimony, and here I am very much mistaken, should it not prove a valuable article.

I would not have my readers suppose, from what I have said, that I wish to uphold the Italian doctrine: except in this particular instance of the use of antimony, I know nothing of it, and have here only taken the liberty to speak in its favour, merely as regards the effects produced by this remedy, leaving to others, more skilled in reasoning, to explain the manner in which it acts. Of the administration of the same preparation in gastro-enteritis, of gamboge in enteritis, dysentery, &c. of cantharides in inflammations of the kidneys, &c. I know nothing. I would not condemn, however, without sufficient proof, what others have tried and found serviceable. I must confess, however, that, from what I have been taught and from what little I have seen of medicine, it would not be a very successful practice, and yet it is supported by very high authority. These cases, however, differ materially, with regard to the practice pursued, from those which I have related. Do not physicians, in every part of the world, treat diseases with remedies which, to our ideas of disease, and to strict medical reasoning, appear to be very far from the correct one and yet with manifest success.

Who would, *à priori*, have applied spirits of turpentine to a burn, to ophthalmia, or have used it in hæmatemesis? Who would have thought of curing conjunctivitis by a solution of lunar caustic and other stimulating articles? Who would have used capsicum in yellow fever or cynanche tonsillaris? Or who, from mere reasoning on the articles of the materia medica, would ever have thought of giving, as just mentioned, antimony in gastritis or gamboge in dysentery, and yet we hear every day of its being done and it is said with success too. I would not, nevertheless, pretend in its full extent to follow such practice, because, according to my views of disease and the administration of remedies, it would be, in many cases, a very incendiary one. I have only mentioned it, to shew how physicians differ in their views and practice, and yet it may be a question, whether, in the long run, one has more success than another. All these cases, however, and the application of such remedies to them, differ essentially from the administration of the antimony, in cases of phlegmasiæ situated at a distance from that canal, which is in a perfectly healthy condition, and not in the least irritated by the medicine. It tends to shew how uncertain and varied our practice is: while one cures an ophthalmia by copious bleeding and depletion, another will arrive at the same end by using the caustic; and while a third treats a burn with soothing, cooling applications, a fourth will pour on it the irritating spirits of turpentine. This being the case, should we not be careful how we condemn modes of practice which do not altogether chime in with our theory, or which clash with our opinions and experience of disease? Should we not, under such circumstances, pay some deference to the practice of others, particularly when we have not tested it at the bed side, the only crucible, as before observed, of all medical theories and doctrines?—It is at that spot, in the frequent attendance in the sick chamber, that, when well grounded in physiological and pathological anatomy and with a good knowledge of pharmaceutic chemistry and the materia medica, we can derive our most valuable knowledge and information, as regards the treatment of the "various ills that flesh is heir to." It is by such attentive observation, that facts, "stubborn things," are collected. It is in fine there alone that we can possibly arrive at any thing like certainty in medicine, and bring about that desirable period, so fervently anticipated and so religiously believed by our celebrated RUSH,—the period when all diseases will have a sure and certain method of treatment, and every affection its specific remedy.

ARTICLE XI.—*Case of Irritability of the Stomach.* By JOHN HOPKINSON, M.D.

The attention of the medical world has of late been turned with so much intensity to all affections of the mucous membranes, that any fact bearing upon their pathology acquires a high degree of interest. And hence the stomach, in the ratio of its importance in the healthy operations of the animal economy, claims our regard in all its various conditions of derangement. As the practical deductions which might be drawn from the following case may prove beneficial in the general cause, the particulars of it have been collected with accuracy, and are submitted with that single recommendation.

M. N. came under my care on the 10th day of January last, in consequence of an inability to retain any food whatever in the stomach; she had however persevered, for some days previous to my first visit, to take her regular meals, although they were almost invariably rejected shortly after their reception into the stomach. Nothing peculiar could be discovered in the skin, pulse or tongue, except that the latter was slightly furred; and indeed the only striking symptom observed was in the countenance, which had a languid, sickly expression. From all the symptoms, I concluded, that this was an instance of what has been termed erethism of the stomach, as there was no decided evidence of inflammation, and every proof of excessive irritation. It naturally struck me, that, under such circumstances, very little was to be anticipated from any medicinal agents internally exhibited, and, that abstinence, alike from them and from food, would form the most successful plan for relieving my patient. Upon inquiry, I found that various means had been resorted to, as usual on such occasions, to quiet the stomach, and of course, in this instance, without effect: such as camphor, peppermint, spirits, &c. irritants which only augmented what they were intended to relieve. The pulse was not above eighty in the minute, and although somewhat corded, yet very feeble and indistinct. As there seemed no immediate necessity for the detraction of blood, I ordered, perhaps merely from habit, a little lime water, to be taken occasionally with or without milk, and left her under the strict injunction, that no article of food whatever should be allowed. At my next visit on the 12th, I found the lime water had been no more successful than the previous articles which had been tried, as it invariably produced the same train of symptoms. Under these circumstances I interdicted every drink, except a very little cool water which was to be taken cautiously, and ordered a large blister to the epigastrium, at the same time enjoining perfect rest in bed. Much astonishment will here arise perhaps, with the BROUSSAIAN advocates, that leeches were not immediately put upon the epigastrium: but they are an expensive remedy, and therefore I was obliged in this case, if possible, to succeed without them, nor did I despair of being able to do so; besides, I am not so well persuaded, that my patient would have been benefited by their employment; for if the disease be not very soon arrested, the excessive detraction of blood, by debilitating the system, only diminishes the patient's ability to tolerate the perfect abstinence so essential to the cure. Cases, indeed, are not wanting in which this has actually happened; and persons with this very affection have sunk exhausted, merely from the application of leeches. I refer to the July number of the London Medico-Chirurgical Review for this year, for further information. As regards the effects of the blister, I cannot say that my patient was perceptibly benefited by it, although she certainly was not made worse, as might have been anticipated by those whose views have so much changed in relation to their utility in all such cases.

The article of drink she generally took was toast water, which agreed tolerably well with her, certainly better than lemonade or any thing else; it generally excited a little hiccough and pain, and then rested quietly in the stomach. The train of symptoms following the trial of any other liquid, even weak tea, milk or coffee, was somewhat peculiar. For a moment it would produce no unpleasant symptom, but very soon there supervened hiccough, which was always the first indication, accompanied by some pain in the stomach. To these were now added a sense of heat or burning, nausea, and eructation of flatus, which continued for some minutes after its reception, when the offender was cast out, and again all was tranquil. This was invariably the consequence of any attempt to change her drink, and on one occasion, a small crumb, which had been accidentally swallowed in the toast water, induced all the above mentioned phenomena. During the morning or afternoon, at which times my visits were made, the pulse never exceeded eighty—the skin was not hot—the tongue was neither dry nor red, being merely slightly furred, nor in fact was there any indication of fever or inflammation; she was cheerful, occasionally sat up, and seemed to be well: she undoubtedly at this time looked much better than when I saw her first, a week previous, and that perhaps was all that could be said. She complained, however, of being very much troubled with thirst during the night, from which she concluded that she must then have fever. With a view of relieving this, I ordered a quarter of a grain of calomel, with a little gum arabic, three or four times through the day, which she took without being told of it—for the idea of medicine was so disagreeable, that she could not have retained it, had she been conscious of taking any thing under the title of *physic*. With this she occasionally took the black drop, which seemed to have a tranquillizing effect; and at night when restless, it was also allowed, composing her and producing sleep, and she was generally indulged with the privilege. In this way things had gone on for ten days; the blister had healed, and with the single exception of an alleviation of thirst (effected probably by the calomel, which was now discontinued), no progress had been made towards a recovery. She often complained of a most disagreeable taste in the mouth, which was by far the most uncomfortable symptom she had; I cannot say whether this was the result of the calomel or not, although it is very probable. Not much concerned respecting the regularity of the bowels, I had determined, from the commencement, to leave that matter entirely to nature: but upon some anxiety having been expressed upon this point, and no passage having been obtained since her indisposition, injections were allowed, to be used every other day; these produced only a slight discharge of a white mucus, totally untinged with bile. It was suggested to me, that this was a case of softening of the mucous coat, and that some astringent would prove beneficial in restoring its tone: this was attempted with kino, in the form of pills, but it was impossible to prevail upon her to take them. Not satisfied with this dilatory practice, I determined, even at this late stage of the complaint, to have her cupped. This was done near the third week of my attendance, and although not followed by any decided change, she was thought upon the whole to be better; that is to say, the toast water was sometimes taken without producing hiccough. The pulse at this time was scarcely perceptible, and she complained of great debility. She was requested now to try the white of an egg beaten up with sugar, which proved most grateful, and agreed with her very well. I would recommend this as an article of diet in all similar cases, as exceedingly light, and probably very nourishing. From this time forward she improved, occasionally sucking the juice of an orange, and sometimes taking light food, such as mush, arrow root, &c. Her appetite now returned with a particular desire for salt meat, which it was very difficult to restrain, even with the allowance of a small piece of ham to hold in the mouth. Within a few days, four weeks from the first day of my attendance, the bowels resumed their office, and were natural in every respect. The menstrual discharge was perfectly regular, and occurred during my attendance, without however influencing in the least the march of the disease. Things continued in this favourable condition for one week, when on the eleventh of February I was again sent for, on account of a return of the vomiting and other symptoms. It came on after taking a cup of tea, but she affirmed that it arose entirely from witnessing her brother, who was taking a solution of tartar emetic, for an inflammation of his eyes. On this occasion her tongue was more furred than

I had before seen it, and at the back part was brown, although moist. She was requested to try some weak quassia tea, by way of a tonic to her stomach, which I was happy to find now agreed well with her, not causing any unpleasant symptom. From this time she gradually convalesced.

This case, not in itself either novel or remarkable, possesses still some points which are worthy of consideration. In opposition to M. Broussais's problem, I have elsewhere attempted to elucidate the great practical distinction to be drawn between irritation, or simple nervous excitement, and inflammation, or increase of vascular action. In applying cups, it is not to be inferred that inflammation was suspected. I had so often seen these symptoms relieved by them that they were now prescribed, more from a prejudice in their favour, than any decided reason why they should prove beneficial. It may be said indeed, that my patient improved from that time; but, as this improvement was very gradual and not immediate, it still remains doubtful how it had been brought about. In making this remark, it is not to be supposed, however, that any desire exists to detract from the value of cupping as a remedial agent. In fine, purgatives, tonics, and all irritants were as inappropriate to the onset of this case, as would have been leeching, or bleeding in any way, to much extent. Dry cupping might probably have answered every purpose had it been tried. If there existed no inflammation, why treat it on that supposition? And if it did actually exist and produce those symptoms, why had we not also high fever, pains in the back and head, &c. irritated pulse, dry or red tongue, &c. &c.? From these considerations I am yet to learn, that such symptoms invariably arise from any grade whatever of gastric or enteritic inflammation, or that loss of blood is essential to their removal.

To advance the cause of the science of medicine is certainly both a duty and a pleasure to every member of the profession; but there is some danger of overstepping the bounds prescribed by facts and actual observation, or entering into the unknown regions of speculation.

ARTICLE XII.—*Cases of Ulceration of the Intestines.* By GEORGE S. BETTNER of North Carolina, one of the Senior Students of the Philadelphia Alms House Infirmary.

Auspicious as may be the present period for the advancement of the medical profession in this country, still it must be acknowledged, that difficulties yet exist. The pathological investigations, now conducting with much spirit and with great benefit to medical science, have been chiefly confined to another quarter, and we have been contented to receive and acknowledge the discoveries and observations of others. That very valuable contributions, however, have been made, by the profession in this country, it would be injustice to deny. But comparatively few and limited are the facilities for autopsical investigations, by which obscurity may be in a great measure removed from the practice of medicine, and the fallacy of incorrect theoretical opinions be detected. The prejudices of society, which are natural and almost invincible in regard to morbid anatomy, have obstructed the progress of pathological discovery in this country, where an ample theatre has been afforded, not only from the variety of diseases but from the same diseases being modified by diversity of situation and climate.

The stomach having been long regarded as the principal organ that is liable to suffer in fever and in a variety of other diseases, it has been but lately that investigations, more ample and extended, have illustrated the importance of attending to the whole alimentary canal. The truth of this proposition has recently been presented in a most interesting light by M. BRETONNEAU, a distinguished physician of Tours. Having observed that the small glands of PEYER and BRUNNER, scattered along the course of the small and large intestines, are often liable to inflammation and ulceration, he has constituted a new disease, entitled dothinenteritis or pustular enteritis; and has insisted much upon its frequency and fatality. The fact of its actual occurrence was shortly afterwards confirmed by the observations of TROILLET, ANDRAL, and others of Paris, and by Dr HEWITT of St George's Hospital, London. Nothing has hitherto been written upon the subject in this country. This may have resulted from causes previously adverted to: but in the Alms House Infirmary of Philadelphia, where the greatest facility is allowed for such investigations, opportunity has been afforded of seeing not only this but every other form of ulceration to which the intestinal canal is liable.

The existence of ulceration in the intestines is by no means a new discovery. It has been long known to occur in variola, in chronic diarrhea, in dysentery and in the colliquative diarrhea of phthisis. But it is in regard to other diseases and especially fever that it now lays the greatest claim to attention. So sceptical are many, as it respects the existence of ulceration of the intestines, except in the ordinary cases above alluded to, that they have doubted whether they ever occur, or supposed that glasses would be necessary to detect them. It is hardly necessary to state how unfounded and discreditable are such opinions.

In treating this subject it might be thought advantageous to describe the various classes into which ulceration of the intestines might be distributed. These would be numerous, considering whether the glands of PEYER and BRUNNER alone were affected, or whether the ulcers were superficial or deep seated, involving one or more coats, and regarding the various aspects of their surfaces and edges. All portions of the intestines also are not equally liable to ulceration; some are more frequently affected than others, and their susceptibility has been computed in the following order. The cœcum, the end of the ileum, end of the colon, commencement of the rectum, duodenum, jejunum and the arch of the colon. Ulcerations of the rectum, from this gut being liable to fistula, hemorrhoids, cancer, contractions, &c. might form a distinct class. GENDRIN, in his anatomical and pathological history of inflammation, has divided intestinal ulcerations into three classes. 1. The villous, confined to the villi of the mucous coat; 2. The follicular, confined to the mucous follicles; and 3. The patched or laminated, which would embrace in some instances both the first. If to these is added the pustular, or dothinenteritic, they would be sufficiently comprehensive. But it is of less importance to describe the classes of the ulcers, than to point out the cases in which they occur. This must be done however, under this disadvantage, that the limits of this paper would not allow of a very minute detail of the history, symptoms, and treatment of each case.

Case 1.

Eliza Gilmore, age 22 years, an Irish emigrant, admitted into women's medical ward, October 3d 1827, with fever. Had been sick for nine weeks, and had been treated, upon the active disturbing plan, with cathartics and emetics. Symptoms on admission,—great prostration, feeble pulse, tender epigastrium, excitement of brain. Stimuli were used, blister to head, &c. but delirium increased, and convulsions supervening, she died October 6th.

Autopsis.—Choroid plexus and vessels of brain injected; slight effusion under arachnoid membrane; lungs, liver, and vena portarum congested; heart and spleen natural; stomach had an hour glass contraction; some dark spots about its mucous tunic, the latter softened at the large extremity; jejunum injected externally, internally healthy; whole of the small intestines injected externally, as also that portion of the mesentery attaching the ileum. The lower part of the ileum had dark spots on its peritoneal and muscular coats. Corresponding to these internally were ulcers in the mucous coat; generally of an oblong shape, some very large, the edges hard and elevated, with ragged and excavated centres; the mucous membrane around being intensely injected. There were also some pallid, tuberculous elevations, with ulceration just commencing in the centre, as if at a point. Some of the glands of the mesentery were in a state of suppuration, and all of them diseased.

Case 2.

James Clark, admitted into black men's medical ward Nov. 1st with fever. Previous history and treatment not known. On admission, tongue slightly furred; pulse good; hoarseness; eyes injected; but symptoms generally favourable. Was leeched on the epigastrium; and restricted to light diet.

Nov. 16th. Appeared entirely convalescent. Took cold by imprudent exposure; fever returned; skin dry and hot; tongue red and dry, and became at last dark and encrusted; subsultus tendinum; laborious respiration; deep stupor. He died Nov. 21st, with all the symptoms of typhus fever.

Autopsis, day after death.—The large extremity of the stomach congested; the mucous tunic thinner and softer than natural; at the greater curvature, on the anterior surface, were albuminous flakes, some of which could be removed by scraping; on dissecting off the mucous coat, the under surface exhibited no such appearance. Liver enlarged but of a natural structure. The upper portion of the small intestines natural; on the lower part of the ileum almost throughout were streaks of inflammation, especially on that part of the mucous membrane next to the mesentery. The inflammation existed principally in streaks, with some spots or dots of effused blood, some but no great vascular injection, and some thickened elliptical laminæ in the lower part of the ileum, covered with black dots which occupied the mucous follicles. In the large intestines the mucous membrane appeared elevated in irregular ridges, the tops of which were rough, fungiform and of a whitish yellow aspect; surrounding these elevations, were black and red patches running in circuitous and oblique directions. There were besides many distinct ulcers; the ulceration diminished in the ascending colon and was absent in the cœcum, where the black and red patches also prevailed, but were less intense. The descending colon and the rectum were the worst. On dissecting the coats, the peritoneal and muscular tunics were not involved in the disease, and in the intervals of the elevations and ulcers alluded to the mucous membrane was healthy in colour and texture.

Remarks.—These two cases exhibit evidently the characters of dothinenteritis, as described by M. Bretonneau and by Dr Hewitt; the ulcerations commencing in the glands; the inflamed areolæ surrounding them; the glands in some instances destroyed; and the ulcerations advancing in the mucous membrane; the intervals being healthy in appearance. The whole of these dissections were recorded while ignorant of the observations of those gentlemen. But it is not the glands only that may prove the seat of ulceration, in cases similar to those described above. In the fatal terminations of fever, ulcers, especially of the small intestines and at the ileo-cœcal valve, have been noticed at the Alms House, when the glands, particularly the mesenteric, have not been at all affected. The affection of these latter glands, indeed, has been explained, by supposing an absorption of the purulent fluid by the radicals of the veins; these veins transporting the fluid to the glands of the mesentery, where they anastomose with each other, and with the absorbent vessels. Be this as it may, it is not consistent with the object of this paper to enter upon investigations of this nature; intending only to record facts which may speak for themselves; and on this account we shall not venture to inquire, whether M. Bretonneau was justified in building upon dothinentery a new theory of fever; or whether Dr Hewitt was more correct in speaking of it as occurring in idiopathic fever, without its being the cause of fever. Its existence is enough for the practitioner to know, and is sufficient to convince us of the truth of the remark which Dr JACKSON has often made in witnessing examinations at the Alms House, that the local affections in fever are as much to be dreaded as the fever itself. So true is this, that many cases have occurred, where patients, originally affected with fever, have died, not of the fever, but of peritoneal inflammation, induced by ulceration extending through the bowels. In some instances, weeks or perhaps months after the fever has disappeared, patients have died of the ulceration which has been left to corrode the intestines, inducing diarrhea, exhaustion, and death. The same is true also with regard to phthisis pulmonalis, where healthy portions of the lungs have been left, sufficient for the purposes of respiration, but the energies of life have been exhausted by the continued effects of gastro-intestinal irritation and ulceration.

Case 3.

Sarah Warden, admitted into black women's medical ward November 13, aged 22. Habits intemperate. Early in the month had been exposed to cold and wet, which brought on fever, attended with hoarseness. Continued to become worse, and came into the medical ward.

Symptoms on admission,—violent headach, difficulty of breathing, cough, pain around the umbilicus, tenderness over the abdomen and epigastrium, skin dry and hot; bowels very open, pulse small, frequent, and tense. She died on the 16th.

Autopsis.—Liver much enlarged, harder than natural; stomach natural except slight injection at the lower extremity. The mucous coat of the lower half of the ileum, as well as of the ascending and descending colon, exhibited the appearance of having had flour sprinkled on its surface, and in the midst of it in some places were thickenings of the mucous coat, surrounded by vascular injections. In the rectum were the same appearances and patches injected as above. On close examination, the injection was found seated in the muscular coat, as the mucous coat could be removed entire, and in one place, where the membrane was thus removed, ulceration was observed in the muscular coat.

Remarks.—The diarrhea, so conspicuous in this case, is what has often been observed in cases of fever in this house, and has often led us to suspect the existence of inflammation which may proceed to disorganization; and the knowledge of this fact has convinced us of the utility of resorting early to cooling and mucilaginous injections into the bowels, and to the use of leeches and mild fomentations to the abdomen and epigastrium, and to abstain, as much as possible, from the use of active purgatives, which would defeat the object of this treatment. As to ulceration existing in the muscular coat, it is not probable that it often occurs, and if in any extent, would soon embrace the cellular and mucous membranes. But it is possible for disorganization to commence its career in any of the coats of the intestines.

There died a few weeks ago a man of middle age, in the men's clinical medical ward, whose case it is unnecessary to detail at full length. He was admitted into the Alms House from the Pennsylvania Hospital, where he had been the subject of intermittent fever. The result of this was dropsical effusions; and he died shortly after his admission into this house, having been treated ineffectually with diuretics, &c. On examination, ulceration of the bowels was discovered, accompanied with peritoneal inflammation. The omentum was thickened and indurated, and the intestines glued together by coagulable lymph which thickly covered the peritoneal surface of the intestines; tubercles were observed, many of which were in a state of suppuration. These had, in many instances, extended inwards so far, as to leave the mucous membrane entire, although it exhibited along its track marks of chronic irritation and inflammation. It would be easy, were it essential, to detail other cases, similar to the last mentioned, in which persons attacked at first with fever attended with diarrhea, and resulting at last in effusion, were found after death to have ulcerations of the intestines, seated in the mucous coat, not large, jagged, and irregular like those observed in typhus fever, but generally diminutive, a line or two in diameter, and circumscribed by well defined areolæ of a red colour. The ulcers too, that may so often be observed in chronic diarrhea and dysentery, in the colliquative diarrhea of phthisis, and in the cases which RICHTER has denominated rheumatism inverted upon the bowels, although the edges are often jagged, blackish, and deep, do not present the elevated appearance, like the venereal chancres, observed in the ulcers previously described. In infants too, who have died with all the ordinary symptoms of hydrocephalus, such as rolling of the eyes and of the head, tossing of the hands, convulsions, &c. ulceration of a peculiar form, so far as I have had an opportunity of seeing, occurs, attacking the mucous follicles, which have the appearance of black specks enclosed in thick uneven elliptical laminæ on the mucous coat; these ellipses, beginning in the large intestines and diminishing in size in the small intestines, become more indistinct in the upper portions of the tube, and are scarcely visible in the duodenum. The same appearance has been described in one of the cases previously detailed, conjoined with ulceration and destruction of the mucous membrane. No other kind of ulceration have I seen, however, in the hydrocephalic subjects, and its occurrence is sufficient to indicate the utility of considering the primæ viæ as the principal source of that disease.

A case of some interest, with regard to another disease, it may be worth while to record more at length.

Case 4.

Lewis M'Guire, age 56, admitted into men's medical ward September 26th 1827, said he had been sick for some weeks, first with anorexia, nausea and headach, afterwards his skin became jaundiced. Symptoms on admission,—skin and conjunctiva of the eye of a bright yellow or golden colour, tongue white, furred, and cracked in every direction; bowels open, no pain. Ordered blue mass, and frictions of strong mercurial ointment, light diet. 27th, cups to right hypochondrium. 29th, no better. Skin of a deeper colour and dry, ordered calomel and opium. October 2d, bowels too much open, strength generally reduced, tongue dry and cracked, voice weak and tremulous; ordered cretaceous julep with tr. opii and enemata of flaxseed, mucilage and laudanum. 3d, bowels improved, but his strength is failing. P.M. Sinking, tongue the same, mind wandering; ordered stimuli internally and externally. He died on the 7th, having ejected from his stomach before death three quarters of a pint of dark fluid resembling coffee grounds.

Autopsis.—Liver of a natural size, bile natural, no obstruction of the ducts, or apparent irritation or inflammation of these tubes, stomach slightly softened at the large extremity in one spot, but at the anterior surface the mucous tunic appeared rather thickened. No injection or redness of stomach, but it had a yellow tinge. Intestines of a dark colour externally; on opening the large intestines they exhibited a bluish appearance, and irregular dark red spots of apparently effused blood in their mucous coat, accompanied by a lymphatic effusion. The centres of these dark spots were the seat of ulceration. This appearance was chiefly observed in the cœcum.

Remarks.—It will be seen from the treatment pursued in this case, that the liver was thought to be materially concerned as the seat of the disease, which it was not. The appearances presented afford a strong illustration of the truth of that pathology of jaundice taught by the professor of the practice of medicine in the University of Pennsylvania, ascribing it mainly to a derangement of the chylopoietic viscera, in which the serum of the capillaries undergoes a morbid change.

In addition to the cases already cited, the space to which this paper must be confined will allow of the detail of but one more, and that with respect to a disease whose title is indefinite, and its pathology obscure; a disease, for which the powers of medicine were often unavailingly invoked.

Case 5.

Margaret Anderson, age 33 years, admitted into women's clinical medical ward in the spring of 1827, had been a very plethoric and healthy woman. Some time previously to her admission she had been seized with fever. On admission the account taken of her case was as follows:—General emaciation of whole body, entire loss of appetite, soreness of the muscles of the extremities, so as not to bear the slightest touch; hoarseness still exists amounting almost to aphonia. Has been treated with active purgatives and emetics, much to her disadvantage; has had a blister to her breast for the hoarseness. Ordered blister to be repeated, and anodyne expectorants, speech in a few weeks returned, soreness of the extremities was soon relieved. Generous diet allowed, and anodynes at night. April 25th, pain at stomach for which she was leeched, and black drop ordered, and anodyne mixture. May 20th, severe paroxysms of pain in bowels, with tormina, which nothing could relieve. Lingered until June, and died with all the symptoms which characterize marasmus, or tabes mesenterica.

Autopsis.—Liver, kidneys and uterus natural, ovaries enlarged, stomach entirely situated to the left of the spine, in the left hypochondrium. The greater extremity uppermost, and in contact with the diaphragm. The lesser extremity lowermost, and in contact with the left side of the spine, the duodenum lying perpendicularly on the spine. The rectum bore extensive marks of previous ulceration of the mucous coat. Most of the ulcers had cicatrized, and this appearance was noticed through the whole of the colon, but was much less in the cœcum. In the rectum and lower portion of the ileum were observed some dark coloured tubercular thickenings of the mucous coat and elevated laminæ of the same, red and florid, with well defined edges. The rest of the mucous surface had the appearance of having been ulcerated and cicatrized. The small intestines especially were altered by chronic inflammation, and had a granular aspect, as if flour had been dusted over their surface. The glands of the mesentery somewhat enlarged.

Remarks.—This case will illustrate the effect of ulceration of the intestines, and the time it may continue, as well as the recuperative efforts which the system can make. It has been doubted whether the mucous membrane, after being destroyed by ulceration, could be healed or regenerated. That it may be is admitted by **Troilet**, **Andral**, **Hewitt** and others, who have directed their attention to investigations of this nature. But a remark which is made by **Howship**, in his treatise on the bowels, may shed some light on this as well as similar cases. I have observed, he remarks, that the new surface, when the ulcers have healed, is neither capable of absorbing nor bearing irritation so well as the original structure.

As it respects the diagnosis and treatment of ulceration of the intestines, it was not intended to dwell upon them, further than what is stated in the record of the cases quoted.

I have thus endeavoured to prove the frequency of a disease which is not often suspected. I do not suppose that ulcerations of the intestines always exist in diseases similar to those here recorded. On the contrary they do not. But it behoves the enlightened physician to be apprized of the dangers with which he has to contend, in order that he may, if possible, avoid them by a vigilant and patient investigation into the nature and seats of disease. Baffled, as we must often be, in our conclusions with regard to internal diseases, as deduced from outward signs, we should not believe, with some physicians, that little utility exists in investigating, post mortem, the causes and effects of disease. On the contrary, morbid anatomy being the surest method of determining a correct diagnosis and pathology, we should assiduously appeal to it, until greater certainty and security are attained in forming those opinions which are to regulate the practice of medicine.

ARTICLE XIII.—*Remarks on Yellow Fever: being an Attempt to explain the Cause of this Disease first appearing along the Wharves of Sea Port Towns.* By SAMUEL EMLEN, M.D. One of the Physicians of the Pennsylvania Hospital.

Read before the Philadelphia College of Physicians.

It is with diffidence I venture to offer any thing in addition to the copious materials already before the public on the subject of yellow fever. The warmly controverted question of its foreign or domestic origin, which seems unavoidably connected with every discussion of the subject, has led the contending parties in this country, as well as abroad, into occasional altercations which evinced an entire absence of that temper necessary for dispassionate inquiry. I should deeply regret seeing the controversy in such a spirit revived; and I feel as entirely averse to offering the slightest cause for its renewal as I am totally disqualified to take part in such a contest.

Having been a member of the Board of Health of this city in the year 1819, when the yellow fever made its appearance in several situations along the wharves of the Delaware, in conjunction with the president of the Board it became my duty to inspect the premises of the sick and to make inquiry into the probable source of the disease. Acting at the time as secretary to the Board, and during the quarantine season receiving daily reports by mail from the Lazaretto physician of all vessels detained as well as those permitted to pass to the city, I was already prepared to decide with some confidence as to the probability of the disease having originated from vessels which had arrived from a foreign port. I did not indeed hear of any vessel whatever being so suspected, and I am able to say with certainty as respects the first cases of the disease, which occurred in the ferry tavern on the upper side of Market street, and two fatal cases which occurred in the buildings contiguous on each side, that there was not at the time, nor had been from the commencement of quarantine, any vessel near them from the West Indies or any sickly port; and I had the assurance from the sick and their friends that they had not been on board of any foreign vessel for some months. Not long after the occurrence of these cases, others were reported, some of which were in situations remote from each other, but all near to the Delaware, amounting to fifteen or twenty patients, and in no instance which came to the knowledge of the Board was there any vessel suspected as the source of the disease*. The sick on Market street wharf, and all others where it was practicable, were removed from the city, their apartments cleansed, white washed, &c. and then closed till cool weather.—No farther extension of the disease took place.

With respect to the local causes said to have existed, some erroneous statements have gone abroad. It was stated in one of our medical journals, that the owner of the ferry on Market street had been accumulating for months a compost heap before his door of vegetable and animal matter for the purpose of manuring his farm in New Jersey. The occupant however had no yard to his house, and it must be well known that no such collection of manure would have been permitted to lie on the wharf before his door. It is true there was some vegetable matter somewhat offensive in an apartment under the tavern occupied by the market people as a deposit for their produce, and the grocery store and small yard adjoining were in a filthy state, but by no means as much so as many other places in the city which had been represented to the Board as nuisances, and where no disease was produced. In several other situations, where the disease appeared, no local filth was discovered.

I was prepared to admit that the preponderance of medical opinion was on the side of the domestic origin of this form of fever, amongst those who had been thoroughly conversant with it from actual observation; though it must be admitted that amongst those on the other side were many equally experienced of the most respectable and distinguished members of the profession. Having had the cases of yellow fever related to occur under my personal observation, and being satisfied that the disease was not in any of the cases referred to brought from abroad, I have presented this statement to the college as additional confirmation of the disease occurring without the slightest foundation for tracing its origin to a foreign source.

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* The Board, in a reply to inquiries from the Board of Health of New York, stated that "all the sick mentioned were resident in this city, and that the disease had not been traced to any vessel or any stranger arriving from abroad in this place."

Being satisfied on this head, my attention was particularly directed to a consideration of the causes which were likely to operate in producing yellow fever on the wharf, where there appeared to be less of the materials likely to produce a poisonous miasma than were to be found at the same time in many other parts of our city where no fever of the kind ever originated. That this formidable disease has primarily appeared in this situation in all places where its existence has been recorded is, I believe, without any well attested exceptions; and this striking fact is alleged by a very respectable writer, Sir GILBERT BLANE, to be a sufficient evidence of itself that the disease is an imported one. The advocates of the local and domestic origin of yellow fever have not advanced reasons in explanation of this circumstance which can be considered satisfactory. It seemed evident that certain agents, not well understood or accurately defined, were necessary to produce this disease on the water's edge, which were not present in other situations in the city remote from this locality. It did not appear that more materials were to be found on the wharves likely to produce a mischievous and fatal effluvia than could be pointed out in many other parts of the city and districts where no disease was produced. Besides numerous filthy houses, yards and alleys, in very thickly settled parts of the town, there was every description of accumulated filth scraped from the streets and deposited immediately in the vicinity of tenements occupied by a poor and negligent population in the skirts of the city; as well as large collections of oyster shells in a very offensive condition, and other nuisances, which were frequently complained of to the Board of Health, and by them inspected, but never producing yellow fever.

In the very interesting and ably written papers "on the causes, phenomena and laws of epidemics," by N. CHAPMAN, M.D. published in the Philadelphia Journal of the Medical and Physical Sciences, speaking of the causes producing yellow fever, the professor remarks, "whatever may be the extent of vegetable putrefaction removed beyond the watery margin of the city, we have no reason to believe that it is adequate to such an effect: disease it will very often excite, though not this precise fever. These views, which I suspect are in part original to myself, rest on a very solid foundation. Thus the fever has been invariably found in this narrow position. There is no proof as far as I know on which we can rely of its prevailing any where else, though undoubtedly the contrary is affirmed. Could mere masses of putrefaction produce it, we should have it throughout the country, where indeed they exist more abundantly. The filth of our cities proves inoperative to this effect except in this particular situation." And in another place, speaking of the cases of yellow fever which are alleged to have occurred in the interior of our country, (though they seem to him to be very imperfectly authenticated) the same writer states, "it is not improbable that on the borders of our vast lakes, or of those rivers which pervade the interior, there may be a condition of things approaching so nearly to that of our sea ports as to be productive of like results. Even admitting the fact, I do not perceive that the opinion I have advanced is materially affected, as in such positions we have still the influence of *water* which I deem so essential in the production of the fever." "The nature of the cause which modifies exhalations in this position, so as to generate pestilential fever," the Dr observes, "is wrapt in obscurity*."

If we shall ever be able to determine with certainty what is, and what is not, essential to the existence of this form of fever—it must be by a patient and careful observance of all the facts connected with the appearance of the disease, from its commencement to its decline. It is only from facts, that an induction of inferences can be made likely to offer any explanation which will be satisfactory.

That the subject presents great difficulties is abundantly proved by the high respectability of the numerous authors who have given us so many volumes of description and of controversy; and notwithstanding all of which there is not at the present period, as Dr CHAPMAN justly observes, "hardly one point connected with it accurately determined."

What the materials are, which produce the fever-generating miasmata or malaria, physicians have been generally agreed in—but a late writer of authority, FERGUSON, has with much ingenuity denied the truth of the generally received opinion on this subject, and asserts that the only indispensable condition for the production of this poison "is paucity of water where it has recently abounded," and that "it is incident to the last or very advanced stage of the drying process," and "has no connection with aqueous or vegetable putrefaction."

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* Vide Thoughts on the Causes, Phenomena and Laws of Epidemics, with Suggestions for their Prevention and Suppression, by N. CHAPMAN, M.D. Philadelphia Journal of Medical and Physical Sciences, No. 17, November 1824, p. 119, 120, 122.

The notorious and numerous instances related of fevers produced by rotting flax and hemp in ponds of water, in France and other places, and the uniform cessation of such fevers by relinquishing the practice,—as well as of malignant fevers, no less obviously produced by rotten coffee, or other vegetable matter in a putrid state, on board ships—are proofs sufficiently demonstrative, to say nothing of swamps, that the general belief on this subject is correct; and, I think, cannot fail to satisfy all, except such amongst the profession (of whom just at this time there are not a few) who seem to be seeking notoriety by displaying their ingenuity and learning in the support of paradox.

That vegetable putrefaction will produce fever in those exposed to its influence, under certain conditions, is not only evident from universal observation, but the recent experiments performed by GASPARD and MAGENDIE* go decisively to confirm the fact; if indeed there can be any doubt upon the subject. They have shewn that both putrescent animal and vegetable matters, when injected into the blood-vessels of inferior animals, produce effects strikingly similar to those exhibited in the human subject labouring under malignant fevers produced by miasmata. But in what does the miasma producing yellow fever differ from that producing intermittents and remittents? Dr MILLER remarks that miasmata may be properly divided into mild and malignant, and Dr RUSH ascribes yellow fever to "more active miasmata" than those which produce common intermittent and remittent fevers. Dr ADAMS observes that the plague originates in towns, ague in marshes, yet, says he, "there is reason to believe both are in part attributable to properties in the soil, though each of its own kind†."

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* Vide Journal de Physiologie, June 1822 and January 1823.

† Vide Elements of the Etiology and Philosophy of Epidemics, by JOSEPH MATHER SMITH, M.D. Fellow of the College of Physicians and Surgeons of the University of New York, &c. &c. New York, published 1824, p. 67.

It must be obvious that miasma varies according to the quality, variety or quantity of the putrescent materials producing it (as the fevers induced by it vary from the simple intermittent to those of the highest malignancy), or that the same effluvia which in the country, from the presence of a purer air, only produces the milder forms of intermitting and remitting fevers, will in a city, where the vitiated air of a crowded population is superadded, produce a malignant fever. But it seems that those putrescent substances which develope a poisonous miasma do not produce a malignant or yellow fever in our cities except on the water's edge. The miasma here must be then either more virulent than that escaping from putrid substances in other parts of the city, or there must be something present on the wharves which is necessary to cooperate in the production of this form of fever, which does not exist in situations farther removed from this locality.

It occurred to me that the most probable cause which gave efficiency to the poisonous effluvia escaping on the wharves in the production of yellow fever was the river itself. That the water evaporating and furnishing a recipient for the poison, it was concentrated in the dense fogs which are seen hovering over its surface and along its borders as soon as the nights begin to lengthen and the autumnal season approaches. It seemed that the miasma which was produced during the heat of the day escaped, by ascending with the imperceptible vapour into the higher regions of the atmosphere, without producing any mischievous effects; but as soon as the cool nights and condensation of the watery vapour commenced, it became entangled in the fog, and produced disease by being thus kept in a more concentrated and virulent state within the sphere of respiration*. Connected with these phenomena a number of facts presented, which I thought gave additional confirmation to the theory.

The first appearance of fever was found to correspond with the approach of cool nights after previous intense heat had existed for some months; and it appeared to me that if the solar heat, acting upon the sources of the poisonous effluvia on the wharves, was alone sufficient to generate this form of fever without the adventitious help alluded to, as that is often more intense for a long time previous to the commencement of the cool nights and the accompanying fogs or mists than afterwards, we ought to look for its appearance earlier in the season. Besides, as there is certainly more heat during the day at the period of the year when this fever occurs, and consequently more of the effluvia of putrefaction escaping, than during the night, the day-time is the period when the danger of exposure on the wharves would be increased, whereas the danger is unquestionably much greater, if not altogether, at night and early in the morning before the condensed moisture hovering over the river and its margin is dissipated*.

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* The mode in which the poisonous miasma is introduced into the system forms no part of this inquiry, but whether that be through one or all of the accessible surfaces, the skin, the lungs or the stomach, the application of the reasoning above is not affected by the admission of either or the whole of these inlets.

It was from the observation of this law in relation to the common autumnal fevers, the coexistence of these with the appearance of fogs along the rivers, over swamps, ponds, mill dams, &c. the materials for producing miasmata being also present, and the evident controlling influence which the motion of the foggy strata seemed to have in the propagation of these fevers, that I was led from analogy to apply a like explanation to the appearance of the yellow fever in the neighbourhood of the wharves. In both instances the disease commences with the same meteorological phenomena and in both the danger is only apprehended by exposure to the miasmata when united with a moist and foggy atmosphere, which is generally after sunset and early in the morning.

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* That miasmata are elevated into the upper strata of the atmosphere during the heat of the day is proved by the fact mentioned by De Lisle and other writers of the mischievous effects of the evening dew. "The evening dew (says this writer) is so much dreaded at Rome, from the proximity of the Pontine marshes, that as soon as it begins to be perceived the inhabitants shut themselves up in their houses. But the moment the first copious precipitation of vapour which accompanies the close of a hot day is over, they all sally forth again and the streets are more crowded than ever." If the poisonous malaria is thus concentrated and falls in a haze, from the condensation of vapour in the higher regions; the inference I think is clear and incontestible that the same poison escaping at night, over which a mist or fog is hovering, must become entangled and concentrated within it. But as regards the precipitation in the evening dew of the effluvia arising from our wharves, the limitation of the source of this poison is here so narrow, that I have not thought it probable that, after having passed into this elevated region, it would in any quantity fall again upon the same circumscribed spot. It would become too generally diffused in the air, if not always wafted away. I have therefore not considered this phenomenon as connected with the production of yellow fever.

But where the analogy is still stronger, and the fact more striking and confirmatory of the hypothesis offered, is, that the generation of all these miasmatic fevers is arrested abruptly by the reduction of the temperature to the freezing point; at which time the appearance of the watery vapour or fog which just before had enveloped the poison is also forthwith prevented. Now it is not probable that the putrefaction which had been going on and producing miasmata and an increase of disease whilst the thermometer stood at thirty-three or thirty-four degrees (and higher than which it still remains during the day) is immediately suspended by a further reduction of the temperature to thirty-two degrees at night. It is more probable that the watery receptacle only was thus precipitated, which had hitherto ensnared the miasma as it escaped from the putrescent materials.

It is a fact well known, that when our cities have been visited epidemically with the yellow fever, so far from the disease diminishing gradually as the weather became cooler, the cases of fever were multiplied daily, in the ratio of its duration, till the temperature was at the freezing point, when the occurrence of new cases ceased at once; the same state of things having obtained in this instance, though upon very different principles, as during the heat of the summer, before the vicissitudes of temperature occurred upon which the well known meteorological phenomena of fogs depend. In the one case the miasmata escaping with the water in a state of volatilization ascend at once into the higher regions of the atmosphere without doing mischief; and in the other the condensed moisture concentrating the poisonous effluvia and holding it within the reach of its victims is promptly precipitated in the form of frost, and its sickening effects cease. Is it probable, as stated by Dr J. MATHER SMITH in his work on Epidemics*, and other medical writers who advocate the local origin of yellow fever, " that the pestilential soil becomes more and more prolific of the poison as the epidemic rises to its height," whilst the temperature is daily thus actually diminishing? Or is it not more likely that, as the gradual reduction of heat must be accompanied with less and less of putrefaction, the increase of the miasma and its effects is owing to the continued accumulation and retention of the poison by the frequent returns of the damp and foggy nights, by which means it is conveyed gradually into the houses, and shaded alleys and streets, adjacent to its source?

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* Vide Work on Epidemics, before referred to, by J. MATHER SMITH, M.D.

In the same work on Epidemics, Dr SMITH observes, that "perkoino-miasma (by which name he calls the poison producing yellow fever and plague) is destroyed by the reduction of the atmospheric temperature to 32 deg. of Fahrenheit"—whilst "all writers testify (he says) that the plague disappears in Palestine during the extreme heat of summer; or, as ALPINUS asserts, as soon as the sun enters Cancer." From which statement it would appear that heat and cold are both destructive of miasmata—and however paradoxical the fact may seem, it is perhaps no more so than that which is generally admitted, of the necessity of a mean temperature approximating 80 deg. of Fahrenheit for some months before yellow fever can be produced; whilst the reduction of the temperature daily, during the continuance of the fever, so far from diminishing the extension of the disease, actually increases it till the freezing point arrives, when it abruptly ceases altogether. This obtains even in the warm southern latitudes. Dr J. M. CAMPBELL describing the yellow fever as it appeared in Charleston in the year 1819, states, "that a severe frost always puts an end to the disease, while cool weather increases it." I know not how these embarrassing facts can be explained, unless it be by the meteoric influence which has been suggested.

Dr JOHN WATTS, JR*, remarking upon the degree of heat said "to be essential to the appearance of this fever as an epidemic," states, "this degree of heat alone (80 deg.) however, is not productive of yellow fever; for its appearance is not witnessed, or the spreading of it observed, if a case of it be accidentally or otherwise introduced, unless the causes of a local are superadded to those of a general nature. With the precise intensity, variety and nature of these local causes we are not as yet by any means acquainted; but we have a strong presumptive proof, that all of them partake more or less of the miasmatic character; and that some of them are strong concentrated exhalations, nearly allied to those which produce the ordinary remittent fevers. How far it is necessary that they should be complicated with the agency of adventitious or accidental matters, or modified by the alternate influences of heat and moisture, and certain vicissitudes in the temperature of day and night, we cannot now determine; but we have little doubt, that as the attention of physicians shall be turned from the illusory researches on the subject of contagion, and more sedulously bestowed on the miasmatic origin of yellow fever as developed by the agency of solar heat and meteoric influences, that we shall look back with surprise on the obsolete doctrine of its contagion, that it should so long have kept possession of the mind, to the exclusion of more philosophical principles of knowledge."

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* Vide an Account of the Yellow Fever which appeared in various parts of the United States during the summer and autumn of 1819, by JOHN WATTS, JR, M.D. "Medical and Surgical Register of Cases in New York Hospital."

It is, I am persuaded, only with such sentiments kept in view, that we can arrive at the truth in relation to this long controverted question; and though, perhaps, strictly correct, as stated by Dr Good*, when treating of the subject of this fever, "that of all the subdivisions of general philosophy, there is none so little entitled to the name of a science as meteorology itself," yet I think there are some facts, a knowledge of this science developes (imperfect as it is), which will be found to explain some points of difficulty hitherto presenting themselves in the consideration of this subject.

The formation of fogs or mists is very irregular and uncertain, it is true; but this fickleness may offer the most satisfactory explanation of some of the embarrassing facts, not only connected with the first appearance and location of yellow fever, but also of its very eccentric history whilst prevailing as an epidemic.

Sir H. Davy†, in an interesting paper upon the formation of mists over the beds of rivers and lakes, observes, "the appearance of mist over the Danube in the evening uniformly coincided with the diminution of the temperature of the air from three to six deg. below that of the river; and the disappearance of fog in the morning, with the elevation of the temperature of the air above that of the river." And "when the temperature of the atmosphere remained till after dark higher than that of the river, there was not the slightest appearance of mist." But at the same time, the author states the important fact, that "great dryness of the air, or a current of dry air passing across a river, will prevent the formation of mist even when the temperature of the water is much higher than that of the atmosphere." So that when the season occurs for the appearance at night of the dense and ponderous fogs hanging over our rivers, to which the miasmata adhere, whether disease shall, or shall not, be produced must depend upon many contingencies. That the heat necessary to produce putrefaction and the materials suited to the production of the poisonous effluvia must be present is certain. It is also well known that the presence of water or moisture promotes the decomposition of vegetable and animal matter, and hastens the escape of the morbific miasma; but it will not be contended that the putrescent materials on our wharves, saturated as they are with moisture continually, can receive from the dampness or floating fog of the night such an accession of moisture as to account for the production of a sickening and fatal effluvia at this time only, and that for want of it this process is entirely at rest during the day. The inference is then, as I have endeavoured elsewhere to shew, that all the other requisites being present, the humid atmosphere, such as is produced on our wharves by the fogs arising from the adjacent body of water on the approach of cool nights, is also a *sine qua non* in the production of yellow fever: that the fog is in fact the recipient, concentrating and increasing the virulence of the miasma escaping at night from putrid substances on or near the water's edge, and thus producing disease, which is not produced during the day, nor indeed at night without this auxiliary. But if the theory be well founded, it must still be evident, that the irregular and fluctuating phenomena of fogs, their formation depending upon the air being colder than the water, and being thus subject to the changes of temperature, will render the frequency as well as the intensity of their appearance always uncertain*. Their effects also in aiding the miasmatic exhalations to produce the fever will depend upon the stillness or agitation of the atmosphere. If the atmosphere be still, or if a breeze towards the wharf be present, and more especially if this be of frequent occurrence, the inmates of the adjacent buildings, and others near at hand, without proper precaution would be likely to suffer from the effects of the miasmatic poison. But if otherwise the winds should be strong, or the current of air in the contrary direction, no disease would be induced. In this way may we not explain the irregularity of the appearance of yellow fever? not only the intervals elapsing between its visits, but also the appearance of the disease in a sporadic form in different situations, as it did in this city in 1819, and its more general prevalence as an epidemic as occurred in the memorable years of 1793 and 1798? The highly concentrated poison may be slowly wafted along the wharves from its different sources, such as foul vessels and damaged cargoes, the fetid mud exposed at low tide, on which all the sewers and gutters empty their filth, and the mass of vegetable and other offal matter constantly putrefying along the water's edge, and in this way pass into open doors and windows, or along the streets adjacent and affect a few individuals, whilst those shut up, or not in the direction of the breeze, escape. This state of things may not again occur, or a strong wind or the heat of the sun may disperse the whole and no extension of the disease take place. But if the pestilential poison be sent night after night, in the same direction, in narrow and shaded streets not accessible to the sun, and into houses carelessly left open, the probability is that the disease will become epidemic. The irregular periods at which yellow fever has appeared have been attributed to an epidemic constitution of the atmosphere, or certain inexplicable occult qualities, preceded by a mean temperature of about 80 deg.*

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* Vide Dr Good's "Study of Medicine."

† Vide Some Observations on the formation of Mists in particular situations, Philosophical Transactions of Royal Society of London, 1819, p. 123, by Sir H. Davy, Bart. F.R.S. V.P.R.I.

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* According to the explicit theory of Sir H. DAVY, fogs will be increased in proportion to the previous heat of the summer; because the warmer the water, the greater the variations are likely to be in the temperature of the air from that of the water, by which the quantity and denseness of the fog is regulated. This fact may explain an influence of the summer heat in producing yellow fever not before noticed; as the higher the temperature is, not only the greater is the quantity of miasmata induced, but the greater the fogs along the river, which control and give them efficiency.

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* Dr IRVINE of Charleston, one of our most intelligent writers on yellow fever, whilst he admits "that there is some quality in the air in the neighbourhood of the sea and its tide waters which (he says) is necessary to its appearance," yet asserts at the same time, "that the country must be unhealthy before the town becomes so; and that a season generally sickly is especially necessary to its appearance." Similar sentiments were also entertained by the late Dr RUSH. But that this state of things is not essential will appear from the fact, that, in the years when yellow fever last prevailed in this city, the neighbourhood in the country round us was quite healthy; whereas, since the year 1822, we have had intermittent and remitting fevers abounding close to the city, and through the country adjacent, and no yellow fever has appeared amongst us during the whole period.

"The spread of the fever," says Dr CHAPMAN, "I have always found to be in the direction of the wind; even the line of danger," he observes, "may be drawn with tolerable precision, except when the poisoned air may be wafted over its limits by the force of winds setting in that direction." And that such fevers do arise in situations where apparently none of the materials of miasmata exist: "I have seen," the professor states, "yellow fever break out in this city, and the same has been remarked in other places, on the neatest of our wharves, avoiding as it were the foul and the dirty. By these facts," he says, "have we been hitherto exceedingly embarrassed—leading some to the conviction of the direct importation of the disease, and others to impute its origin to the influence of intense heat only." I have also witnessed instances of disease occurring in gentlemen (and there are many reported by others) who remained in their counting houses after night, or visited them very early in the morning, which were situated on wharves perfectly clean. But I apprehend the cases admit of the same explanation offered above,—the poison being carried from a distance where the cause existed. The necessity of the damp vapour of night to give effect to the poison receives additional confirmation also from this fact,—of gentlemen sickening with this fever by remaining on the wharves at night or visiting them very early in the morning, whilst those escaped with impunity who only remained there during the day.

Dr REESE, in his observations on the epidemic of 1819 in a part of Baltimore, states "that several physicians who had been attending patients through the whole course of the fever in the very centre of infection in the day-time were exempted from the malady, but by visiting once in the night they became diseased." Dr REVERE also in an account of the fever in the same city and the same year remarks, that "there was scarcely an instance of a person visiting the infected district at night without undergoing an attack of the disease, while during the day it might be visited with comparative impunity*." The fact of the great majority of those attacked with this fever being seized at night is mentioned by most writers.

Did it not occupy too much space, numerous authorities might be cited to shew that the yellow fever not only has generally, if not always, appeared in the first place on the wharves, or adjacent to the water, but has been confined to that vicinity during the whole period of its continuance wherever it has existed; whether in the West India Islands, South America or on our own continent. In this city, during the years when its fatality and extension were the greatest, it never reached farther from the Delaware than Fourth street; and this limitation of the disease, together with the direction in which it always spreads from the river towards the city, but passing slowly and irregularly, subject to many obstructions, goes to shew the influence of fog in carrying miasma, as exhibited in all situations where it exists; controlling the extension of disease and being itself controlled by every obstacle placed in its way.

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* Vide Account, &c. Med. and Surg. Register of New York Hospital, by Dr J. WATTS, JR.

In New York (Dr Miller states*, in his account of the yellow fever of that city in 1805,) the disease appeared on the East river some weeks before it took place on the North river; and this same thing occurred in the epidemic of 1803, which, he states, "was ascribed by many to the removal of the shipping from the East to the North river; but as no such removal took place in 1805, it is necessary to explain the fact in some other way," which he does by supposing "that the miasmata came to maturity two or three weeks sooner on one side than on the other."

The city of New York bordering on two rivers and thickly settled on both sides,—the disease appearing on each at distant intervals without spreading from one side to the other, offers a striking instance of the influence of the water in its production. And differing from Dr Miller in the supposed cause to which the intervals were to be attributed which elapsed between the infection of the two margins, I think a more plausible explanation would be found in the meteorological phenomena which has been suggested, than that of the miasma arriving at maturity on one side sooner than the other.

This formidable disease as it has occasionally appeared in Boston seems also to have presented many embarrassing difficulties to the medical men who have described it. The malignant fever has appeared in that town at three different periods, 1798, 1800, and 1819, (each of those periods was during summers which were remarkably hot) and was "confined to the same place and equally narrow limits." "The section of the town where uniformly it has first appeared is around Fort Hill, and during the year 1819 mostly one small square on the south eastern side of the hill." "The principal seat of the disease this year," says a writer in the North American Review, "was on the side of the hill, where the declivity is sudden and sharp. There was not any extraordinary filth about the spot. The houses of the poor and the yards about were dirty, but not more so certainly than the dwellings of the poor in other parts of the town, nor so much so as many houses in the country. The population was not remarkably crowded." "There are extensive flats in the neighbourhood, but not so extensive as some in other places, and these flats are covered with salt water once in twelve hours; we might however," says the writer, "have thought it probable that they furnished the morbific poison, but that the people who were on the side of Purchase street nearest the water, and whose situation in other respects was not preferable to their neighbours and whose houses are lower on the hill as well as nearer the flats, were comparatively free from disease." "The inference seems to us inevitable then," says this writer, "that the cause of the disease originated either in the earth or the water which belonged to the houses where the sick resided. That it was the earth and not the water seems to us most probable, from general considerations which we will not stop to discuss*." Another interesting fact stated by this writer and noticed by Dr Watts, but for which no explanation is attempted to be offered, is, "that this fever whenever it has occurred in Boston has made its appearance much earlier in the season than it has in most cities to the south." Now these statements have all appeared to me extremely interesting, as connected with the hypothesis I have advocated in this paper,—that the made earth which constitutes the materials of wharves or slips and the decaying logs forming their facing, to which the advocates of the domestic origin of this fever have imputed so much, were not present in the very place where the disease had always appeared. Is it at all probable that earth which has been lying on the wharves undisturbed for fifty or more years can still be throwing out poisonous malaria sufficient to induce yellow fever? If this state of things and the facing of decayed logs, which are also mentioned as so formidable, could produce this fatal form of malignant fever, should we not find the disease produced occasionally on some one of the numerous private wharves every where along our rivers: they have logs also, as well as the made earth in their construction? But the crowded population and vitiated air of a city are not present; nor is there there the same corruptible mass of materials along the water's edge which cities produce.

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* Vide The Medical Works of Edward Miller, M.D. &c. p. 88 and 89.

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* Vide New England Journal of Medicine and Surgery for October 1819, and North American Review, No. 27.

It also seems there were no ships near this spot to charge with the contagion. The same writer states, "It is worthy of remark that in neither of our epidemics has any mode of foreign importation been pointed out which rested even on plausible ground."

Now it seems evident that the history of this disease, as it occurred in Boston, its locality, and its singular limits, admit of no other explanation, at all probable, but that which connects the morbific poison with a moist and foggy stratum of air. For being thus more concentrated and virulent, it floats near the earth, ponderous and stationary, when there is no breeze to disturb it, but passing to and fro obedient to the impulse of the winds, and producing those hitherto unaccountable cases of disease, and observing such puzzling and eccentric limits. The sudden and sharp declivity where this disease prevailed, as represented by the writer before quoted, is precisely the spot upon which such a foggy stratum would be likely to impinge and do mischief to a population residing upon it—"whilst those inhabitants lower on the flat and apparently more exposed" escaped for the same reasons which must explain similar occurrences which are so common in the country wherever autumnal fevers prevail. The miasma either passes away from its source in a cloud of vapour, or perhaps floats over the heads of those close at hand and produces disease in persons at a distance or such as live in a more elevated situation; as was the case at Fort Hill. Similar occurrences have been frequently noticed all over the world where these fevers prevail—an example of which near this city at a place called Bush Hill is mentioned by Drs Rush and Chapman and is familiar to most of us.

But how is the early appearance of the disease in Boston to be explained? Why should the disease occur always earlier in this northern latitude and after a much less protracted heat has existed than in our cities farther south? Surely the poisonous effluvia capable of producing this disease must be sooner produced where the heat is the most intense and has existed the longest. Is there any other explanation of this fact, but the earlier accession of cool nights in

Boston than in our more southern cities, and the consequent effect upon the humid atmosphere loaded with miasmata, to which I have alluded so often?

As has been before observed, it was from reflection upon some of the facts connected with the appearance of fogs or mists in the autumnal season, which seemed to have a manifest influence in the production and propagation of intermitting and remitting fevers, that I was led to seek in the same agent an explanation of the first appearance of yellow fever being always on the wharves, or in that part of our cities nearest the water.

The miasma of the country was observed only to produce its sickening effects when the dense fogs were formed over rivers, swamps, &c. by the cool nights, and which evidently poisoned its victims precisely in the direction in which it spread itself over the inhabitants of the vicinity, or was carried by the winds. The danger too was so obviously increased by exposure at night and early in the morning, that not only medical men but the most common observers were careful, if practicable, to keep out of the night air, or an atmosphere loaded with mist or fog in situations where miasma was likely to be present.

Many instances came under my notice and were mentioned by others, of the striking effects of seclusion at night and in the early hours of the morning, preserving the health of individuals and the whole of the children in boarding schools situated in the midst of surrounding disease and when all were taken sick who used no such precautions. The immunity from disease enjoyed by persons situated behind some obstacle to the passage of fogs saturated with poisonous miasmata, such as trees, hills, high banks of rivers, &c. was also frequently observed and has been noticed in all countries where intermitting and remitting fevers are produced.

The evident connection of poisonous miasma or malaria with fog or a humid atmosphere has indeed been remarked by a number of writers on the subject. De Lisle, Sir G. Blane and Dr Chapman have noticed particularly this fact. The experiments made by De Lisle at the Pontine marshes go to prove that it is aqueous vapours which hold miasmata suspended in the atmosphere; that they are precipitated by mists which form the evening dew, and that various obstacles form barriers which they cannot pass and against which they are deposited. Sir G. Blane also remarks, "that the water exhaled from a low surface has a tendency to ascend, and, with the miasmata it envelopes, being lifted over parts on the same level, impinges on the neighbouring heights"—all which, says Dr CHAPMAN, "is perfectly consistent with the phenomena of fogs and clouds." But in an elaborate work on malaria by Dr MACULLOCH* just published in London and within a few weeks received in this country, the author more clearly corroborates these statements by a detail of much interesting matter.

The necessary limitation of this paper will only permit a few lines of extracts. "It has been shewn," the author states, "that the matter of malaria combines especially with a moist atmosphere or with fogs and mists. It is in reality combined with a cloud, and since that is indefinitely transportable we can see no reason why the malaria should not be transported with it: and thus it may travel under the protection of its original receptacle to distances we can scarcely venture to limit. And to a certain extent experience proves that this actually happens," &c. &c.

When treating at length upon the subject of personal prevention under the presence of malaria, amongst other means noticed by the author, I will merely state the following as confirmatory of the fact, that the poison is held in union with the watery vapour floating in the atmosphere. The fact as it is stated by Dr M. is simply this, "that by surrounding the head with a gauze veil or *conopeum*, the action of malaria is prevented, and that thus it is possible to sleep in the most pernicious parts of Italy without hazard of fever. In Malta and elsewhere this belief is universal. Thus also in Spain and Portugal, it is a common and universal habit to draw the *mantilla* over the mouth when in suspected places, as also in foggy weather and east winds."

Dr CHAPMAN has likewise related a fact somewhat analogous: "It is indeed said," Dr C. states, "by a respectable writer, that by merely placing gauze against open windows, or sleeping under musquito nets, protection is derived against noxious exhalations, which to a certain extent may be true, and is credited by the inhabitants of our southern states." "These facts," Dr MACULLOCH observes, "are not improbable upon theory, because we can thus conceive an atmosphere from the lungs accumulated within the veil capable of decomposing the *malaria*." But the theory of the author to me appears much more improbable than the facts. It must, I think, be considered somewhat surprising that the writer, who had just been contending that the malaria was incorporated with the vapour or mist, should now have it decomposed from an accession of more vapour issuing from the lungs and confined within a veil surrounding the mouth. The explanation appears obvious nevertheless, and gives much additional plausibility to the theory espoused. The veil or mantilla really shuts out the poison by shutting out the humidity or fog to which it is adhering.

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* Vide "Malaria; an Essay on the Production and Propagation of this Poison, &c. &c. By JOHN MACULLOCH, M.D. F.R.S. &c. &c. London, 1827."

If then this union and concentration of miasma, in its watery vehicle in the form of fog or mist, is indispensable for the production of its poisonous effects, have we not a satisfactory reason why the most luxuriant vegetation which is seen rotting in the fields, barn yards, compost heaps, &c. in the country can often take place, as is really the case, without detriment to health? and why also the same poisonous effluvia should be eliminated within the precincts of the city from putrid masses of accumulated filth, and yet often escape without any mischievous effect? But bring such sources of poison in the immediate vicinity of a large body of water, whether a river, a pond, or a marsh, whence a mist or fog is sent to hover over and ensnare the poison as it escapes, and with such an auxiliary disease will be most assuredly produced*.

In concluding these observations I have only to add some brief practical inferences, in relation to preventive measures, which have been suggested by the views presented; before doing which I may be first allowed to state, however, that the hypothesis I have attempted so imperfectly to explain was mentioned to some of my medical friends soon after the yellow fever of 1819 in this city, and amongst others to the present vice president of the College, Professor JAMES, who had been associated with me in the Board of Health, and at whose suggestion I then made some notes upon the subject, for the purpose of reading them in this place, but which have remained thrown aside till the present period. My fear has been, that I was erring with many others on the same question by drawing conclusions from too narrow a field of observation, and was considering the disease in too isolated a manner; but if it should not bear the test of a more critical and philosophical investigation which it will be certain to receive from the members of the College, perhaps the investigation may give some aid in the development of truth; besides which, on this as well as on every other question, there is nothing worthy of our pursuit.

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* It may be here stated though not connected immediately with the subject of this paper, that if by excavating canals throughout our country to secure a more ready market for the fruits of a profitable industry, we actually produce disease and lessen the security of life in situations which were before perfectly healthy (and which will be the case I think there cannot be a doubt) is it not worth while to pause and consider the contested question of the comparative merits of canals and rail roads, connected (as I really believe it is) with the preservation of millions of lives? How often do we make our cupidity accessary to our miseries? And this is the case too often with governments as well as individuals. The remark here applies to the destruction of health; but it will perhaps still more frequently apply to the destruction of morals.

The preventive means which may be stated as growing out of the views taken in the foregoing essay are in some respects the same as have been pointed out by many other writers on the subject of yellow fever.

The most important which occur to me are as follows:

The wharves should be carried out to low water mark, and instead of the docks intersecting them as they now do, their whole extent should present an even surface and be faced with stone. They should be covered with a deep layer of sand, and paved as the streets are generally.

Vessels of every description at the wharves should be inspected by the port physician or some other officer before the season of the year in which yellow fever appears. All ballast should be removed and the vessels requiring it cleansed and whitewashed, and frequently ventilated with wind sails.

No vessels should be allowed to come to the city during the sickly season without previous careful inspection at the Lazaretto; and when required to be thoroughly cleansed and purified.

None of the buildings facing the river should be occupied as dwelling houses; and the higher they are and the farther they recede from the water's edge the better. They should only be visited during the day, and if the weather be damp, or if obliged to be in them at night, the windows should be closed and the doors shut. A moderate fire kept in the apartments occupied, or unslacked lime, sulphuric acid, or some substance rapidly absorbing moisture, would offer additional security.

Those persons visiting the wharves or streets adjacent to the river, after night in the sickly season, should use a handkerchief, or some other veil.

All intersections of the city by canals, or the introduction in any

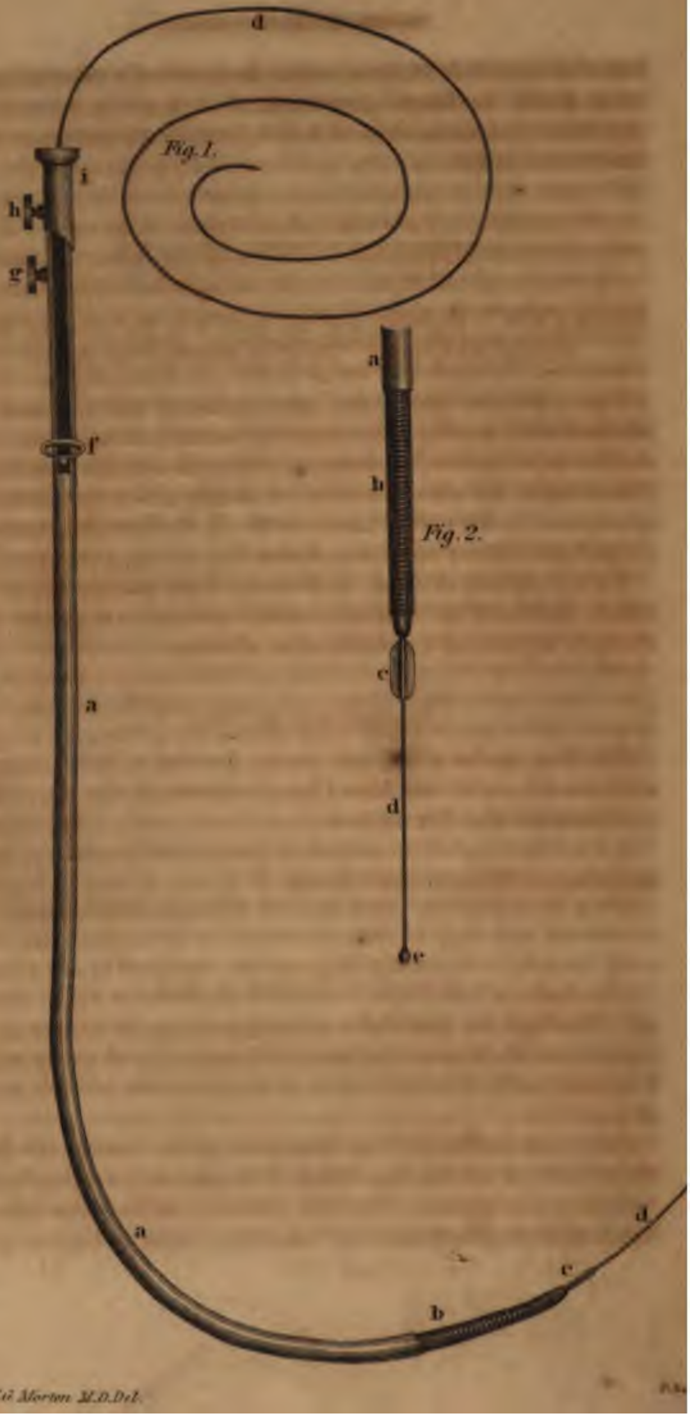

Fig. 1.

Fig. 2.

Sa'l Morton M.D. Del.

way of a large body of water within the limits of a crowded population should be forever prevented, as they would increase the chances of the appearance of yellow fever in proportion to their number and extent.

Article XIV.—*Description of an Instrument for dividing Strictures of the Urethra.* By E. R. Chew of Louisiana.

I am induced to offer to the consideration of the profession an instrument for dividing strictures of the urethra, in consequence of the favourable opinion expressed of it by some eminent surgeons of Philadelphia, and the confirmation of that opinion by its successful employment in the skilful hands of Dr R. Harlan, who has obligingly furnished me with the appended description of the same.

To the kindness of Dr S. G. Morton I am indebted for an accurate drawing of the instrument, which enables me to present it in the most correct and favourable point of view.

Description of the Plate.

Fig. 1 represents a half size profile drawing of the instrument made for the use of the Alms House Infirmary of this city. It is calculated for the adult urethra.

a a is a canula of silver, somewhat thicker than the ordinary male catheter, and fifteen inches in length.

b is a flexible tube of steel or other stiff wire, layed spirally (in mechanical parlance) as *close* as possible to avoid elasticity, while it will be sufficiently flexible to pursue the curvature of the canula.

c is a knife, a lateral view of which is presented in Fig. 2 (letter *c*). This knife has two blades or cutting edges; its body or shank is perforated lengthwise, and has a male screw at one end by which it is connected to the flexible wire tube *b*, which has a female screw to receive it.

d d is a small silver or steel wire, which passes through the flexible wire tube *b* and knife *c*, having at its extremity *e* a bulbous or probe-like termination. This wire should be twice and a half the length of the canula *a a*.

To the end of the flexible wire tube *b*, opposite that to which the knife is attached, there is a silver cylinder about two inches and a half long, to the extremity of which there is connected, by soldering, *f*, which is a silver ring of sufficient size and strength to serve as the handle by which the knife is pushed forward or retracted. To permit this movement of the handle, there is a slit in the canula *a a*, extending to its extremity, and which also permits the flexible wire tube to be withdrawn from the canula when the head is removed.

g is a screw which secures the knife in its position when retracted within the canula by being turned upon the small cylinder.

h is a similar screw which acts on the wire director *d*, that would in the operation be pushed forward by *b* and *c*, if not thus secured.

i is the moveable head of the canula *a a*, and has a body projecting within the canula beyond the screw *h*. This body is perforated for the passage of the wire *d*, and in its side, opposite to the screw *h*, it has a hole to allow the screw to act on the wire.

The drawing of the instrument represents it with the wire *d* pushed forward, and the knife *c* as far forward upon it as the slit in the canula permits, which in this instrument is two inches, a distance discretionally regulated by making the slit longer or shorter. The knife here represented has two blades or cutting edges; but it may be made with one or more as may be desired, and being connected by a screw to the flexible wire tube, a variety of knives may be used with the same instrument. I must say of the knife that I consider it very imperfect; being all in one piece it is sharpened with difficulty; and I hope some ingenious cutler will soon improve it.

Fig. 2 represents part of the instrument of the full size, including a lateral view of the knife.

Mode of using the Instrument.

Preparatory to operating with the instrument, the situation of the stricture is to be ascertained as directed in the use of the caustic bougie, the knife by the handle *e* is to be retracted within the canula, with the extremity of which its point should correspond, and the bulbous extremity of the wire is to be drawn up to the knife; with the knife thus sheathed the instrument is introduced into the urethra, within an inch or two of the stricture, when the wire is to be pushed forward as a probe, which will, according to the peculiarity of the case, pass the stricture with more or less readiness. To be sure that the wire is not in a false passage, it should be passed on into the bladder, however near the stricture may be to the extremity of the penis: that it is in the bladder the operator soon ascertains with a finger per anum. When this is done, an assistant holding the wire, the operator passes the end of the canula up to the stricture. The wire is then secured by the screw *h*. The screw *g*, which prevents the knife from being moved by using the wire, is now unscrewed, and the operator by the handle *f* pushes forward the knife as far as he deems sufficient, and the distance may be accurately determined by a graduated scale on the margin of the slit along which the handle passes. The stricture being divided, the knife and wire are retracted within the canula, and the instrument withdrawn.

It will be perceived that as the knife is directed or controlled in its course by the wire *d*, which passes through it, and this wire being certainly in the urethra, it is impossible to make a false passage, even in the hands of the inexperienced.

I would suggest as a substitute for the armed bougie the use of a portion of this instrument in the application of caustic to strictures, when the use of caustic should be preferred to dividing it with the knife. The caustic may be secured in an apparatus which might be connected by a screw to the flexible wire tube as the knife is; and being retracted within the canula it can be placed in contact with the stricture without the hazard of cauterizing the parietes of the urethra, which is always incurred in the use of the armed bougie.

I would further suggest, in cases of imperforate stricture in or beyond the curvature of the urethra, the use of a *lancet pointed* knife, to be connected by a screw to the flexible wire tube in the same manner as the one now described.

Case of Stricture of the Urethra, operated upon with Mr CHEW's *Instrument.* By RICHARD HARLAN, M.D. One of the Surgeons of the Philadelphia Alms House Infirmary.

Josiah Fay, aged about 48 years, was admitted into the Philadelphia Almshouse in the year 1826, with stricture consequent to gonorrhea. He was but little benefited by the usual course of bougie treatment, was discharged, became worse, and was readmitted in

August 1827. I examined him in the month of September, and found that a stricture in the membranous portion of the urethra opposed every effort to introduce either the catheter or bougie; though, after the point of the instrument had reached the commencement of the stricture, I could perceive, by forcing it more than is advisable in most cases, a sort of dragging sensation communicated to the hand, which convinced me of the existence of false passages; this opinion was strengthened by local symptoms of long standing.

The patient states that he was treated for stricture two years ago at Albany, N. Y. when considerable inflammation was excited. He now passes urine with the utmost difficulty and pain, in a small dribbling stream. Blood follows almost every attempt to introduce the bougie, which however was daily passed in the usual manner down to the strictured portion, with the view of gradually enlarging it. The patient however soon became dissatisfied with this treatment, and earnestly requested some operation for his relief.

About this period Mr Edward R. Chew (one of the house students of the Almshouse) presented to me for examination a most ingeniously contrived instrument for cutting a passage through the *curved* portions of the urethra. I resolved to try this instrument in the present case; but I was soon satisfied that it would be impossible to pass the *wire probe* into the bladder whilst it remained in the canal of the stilette; it was therefore withdrawn from the catheter, and on the first effort was separately passed into the bladder: its distal extremity was then put through the instrument in a retrograde direction. The silver canula with its stilette was next introduced down to the stricture, and using the wire probe as a director, the stilette was now forced into the bladder with the greatest safety, and so far as the instrument was concerned with complete success; for immediately after the instrument was withdrawn, a catheter of ordinary size was introduced into the bladder.

The final success of this operation could not be ascertained in the present instance, as the patient died in three or four days after the instrument had been used, of a constitutional disease heightened by the local irritation.

On dissecting the urinary passages after death, the stricture was found to be an inch or an inch and a half in length, commencing in the membranous portion of the urethra, and continuing to some extent through the prostate gland. Three false passages were observed in the membranous portion of the canal; one of which, opening immediately anterior to the prostate gland, communicated with a sac about the size of a small walnut; this cavity contained pus and grumous blood. All these false passages presented unequivocal marks of chronic derangement. The parts have been preserved in spirits.

In conclusion, I have very little hesitation in recommending the instrument to surgeons, as one of considerable value, and worthy of further trial. Indeed, with the advantages such an instrument affords, the necessity of puncturing the bladder, in cases of chronic obstructions, must be comparatively rare. Some surgeons of great eminence have objected to cutting strictures on account of the liability of the cicatrix to contract,—an objection which I conceive applies equally to the more tedious operation of caustic, and one from which the use of bougies is by no means altogether exempt.

By publishing the above description of a urethro-tome, we would not be understood as deciding the question whether such instruments should ever be used. Some of our distinguished practical surgeons object to them under any circumstances; if the wire can be inserted, they say, dilatation can be effected by bougies; if the stricture be actually imperforate, an incision from without they regard as more safe for the patient, and less difficult for the operator. Whether however such external incisions, comparatively extensive and tedious as they must be, would not be more painful at the time, and the source of more permanent irritation than the division by the urethro-tome, is a question worthy of practical investigation, and which experience must decide. As however urethro-tomes are employed in this country, in France, Germany and England,—as some of our leading surgeons are partial to their judicious employment since their revived use by our distinguished countryman, Dr Physick, in the year 1795, we would recommend the ingenious modification above proposed by Mr Chew, as lessening the dangers of the operation in all those cases to which it is applicable, and we think that the case of Dr Harlan manifested its superiority.—ED.

ANALYTICAL REVIEWS.

Article XV.—*Chemical Manipulation; being Instructions to Students in Chemistry on the Methods of performing Experiments of Demonstration or of Research with accuracy and success.* By Michael Faraday, F.R.S. F.G.S. M.R.I. &c. &c. &c. London, 1827.

Many circumstances indicate the approach of chemistry to the rank of a well founded science. The last of the sciences in the order of time, its advances to maturity have been of unexampled rapidity. It is but a very few years since we were astounded by the extent and the magnitude of its discoveries. The career of this science, after the detection of carbonic acid by Dr Black of Edinburgh, was more like the brilliant pageant of a vision than the ordinary sober march of scientific truth. The vital part of the atmosphere, the combustible constituent of water, the active portion of nitric acid, were in rapid succession drawn from their hiding places, and displayed in simple nakedness before the eye of philosophy. Then came the curious bases of earth and alkali, and a long list of undecompounded bodies entirely unknown to preceding ages, for they had slumbered under the shadows of composition.

Chemistry, numbering at its outset but four elements, is now able to enumerate more than fifty, and the list seems far from being completed. For a few years past the march of discovery has been less rapid and magnificent, and chemists are now engaged in ascertaining correctly the present limits of their science. The facts brought to light in such distracting variety and rapidity are now sustaining a more cautious and a closer investigation; and there is in progress a gradual correction of the errors into which discoverers fell in the haste and tumult of a hurrying progression. Thompson's First

Principles, DALTON's Atomic Investigations, and the extensive and accurate analyses of BERZELIUS have done much to ascertain our knowledge, and to point out the landmarks of chemistry. There was wanting a good manual to direct us in the path of accurate investigation, and to point out the sources of fallacy which so often arise from defective apparatus and ill conducted manipulation. The able and practised chemist may be benefited by such a work, but to the tyro in experimental investigations it is all important to be spared the disappointment which is sure, without such a guide, to attend his initial processes. To the latter the able treatise of Mr FARADAY is of great value, for it contains the knowledge which is essential to a judicious and successful *entrance* on the pursuit of practical chemistry, and which was not, until now, embodied in any single work, and much of which is not to be found in any other work. His object "is to facilitate to the young chemist the acquirement of manipulation, and by consequence his progress in the science itself."

> "The volume indeed is not intended to supply the place of, or imitate in its nature, any one of the numerous and useful works on chemistry now extant, but to be rather an accompaniment to all of them, supplying that portion of knowledge which, however essential to the learner, was not of a nature to consort with their more scientific contents. In the pursuit of this object it is intended to describe—
>
> "The conveniences and requisites of a laboratory:
> "Chemical apparatus and its uses:
> "The methods of performing chemical operations:
> "The facilities acquired by practice: And
> "The causes which make experiments fail or succeed."

Although Mr F.'s directions for the filling up of a laboratory are good, there is much stated which is to be found in other books, and nothing particularly worthy of notice in a cursory review.

In the second section, devoted to the subject of balances and weighing, there is an almost painful degree of minuteness, which is attributable to the importance—the great importance of this process in analytic investigations, which are often made on very small quantities of matter. In this section there is not much that is original, and but little that would not be suggested by the common sense of every experimenter. Among the minutiæ we observe that hot substances create currents in the air; that when paper is used to place powders on, it should be hot pressed and cut, not torn; that weights exceeding a grain should not be placed in a scale until supported against its impulse; that liquids are to be removed in small quantities by bibulous paper; that some very deliquescent or vaporizable bodies may be easily weighed by adding them to a known weight of water, &c.; that currents in water affect erroneously the estimates of specific gravity as do also imperceptible bubbles of air, especially in water lately relieved from pressure, as happens when drawn from the bottom of deep water.

The third section treats of measures, and is occupied chiefly by descriptions of the modes of forming graduated glass vessels and tubes, which he effects by means of mercury accurately weighed. Dr HARE's excellent mode of measuring liquids and gases, by means of a graduated metallic wire of uniform diameter, passing through an air tight collar into a circumscribed cavity, is very cursorily noticed. We who have used this instrument believe it to be superior to every other for the purpose intended.

Section fourth is devoted to the subject of heat. "The sources and management of heat" are deemed, very properly, of so much importance as to swell this section to an unusual size. Though very minute and satisfactory in its details, there is not in it much that is new or which may not be found in other essays on the same subject. The part of it devoted to the description and uses of spirit lamps afforded us particular pleasure, because we have found from experience the great convenience and advantage of these neat and manageable instruments. In conducting the experiments of a course of chemistry during summer, we have actually found it economical to substitute them for even charcoal fires, wherever the heat they afford is sufficient for the purpose. At pages 104 and 305 are cuts representing lamps for alcohol, varying in form according to the uses to which applied.

> "A very powerful and useful spirit lamp is formed by making an aperture of 0.8 or 0.9 of an inch by an inch and a quarter, through the body of the lamp and fixing in it four burners upon Count Rumford's principle, each of a length equal to the width of the aperture and the one-eighth or one-tenth of an inch wide. These are to be parallel to each other and at such distances as to have five spaces or air ways. These burners rise about a quarter of an inch above the lamp, and descend as low as the bottom of the body, being fastened in the aperture by their edges. Each burner is closed beneath, but has a small hole into the lamp as a passage for the alcohol, thus forming as it were a part of the lamp. The lamp is supported on feet," &c.

The object of this arrangement is to permit the free access of air to the flame of the burners, which are set in the middle of the lamp and occupy its central aperture. The chief objections to this lamp are the shape of the flame and the descent of the heat by the burners to the alcohol which is thereby too rapidly evaporated through the vent holes. A better lamp is formed of a *circular* burner, an inch in diameter, set in a circular central aperture of an inch and a half diameter, and connected with the body of the lamp solely by three tubes which pass horizontally from the bottom of the burner to the bottom of the lamp, and afford a passage for the alcohol from the lamp to the burner. By using two or more concentric burners so different in diameter as to leave air-ways between them, a very large and powerful flame may be obtained. We have thus a circular flame, and as the connection of the burner with the lamp is so remote from the flame, no sensible degree of heat reaches the alcohol in the body of the lamp. COOPER's lamp for heating tubes, figured in page 305, is too complex. Burners of the required length for such purposes may be set in a central aperture of a long tin box, and afford equal heat with less trouble and expense. In this section we are pleased with the simple and ingenious contrivance to render smokeless the jet of carburetted hydrogen. As Americans too we rejoice to find so able a judge as Mr FARADAY awarding to Dr HARE the credit of having originated the "oxyhydrogen blowpipe," an honour unquestionably his, but long disputed by certain English philosophers.

The important subject of "comminution" is treated minutely in the fifth section.

Section the sixth is devoted to solution, infusion, digestion, &c.

> "All aqueous solutions of solid bodies are heavier than water; upon this difference is founded a very convenient indication of solubility, frequently useful, always easy. It is to suspend a piece of the substance in a glass of clear undisturbed water; if the body be soluble, a descending current will be seen to fall from it. If it fall rapidly and in dense striæ, it will indicate rapid solubility and the formation of a dense solution; if it fall in a very narrow stream it will indicate only moderate or slight solubility; and by its descending rapidly or in a slow broad stream or by resting about the substance a judgment may be made of the comparative density of the solution produced. If no descending current appear, nor any fluid round the substance of a refractive power or colour, different from that of the water, then the body must be very nearly, if not quite, insoluble at common temperatures."

At page 182 is represented a mode of pouring a liquid so as to avoid the loss of a drop, and to conduct it to any given point. This is effected by applying the lip of the vessel, from which we intend to pour, to a wetted glass rod placed in a vertical or nearly vertical position. Along the rod the liquid is conducted to any part of any vessel used as a recipient.

In the seventh section, devoted to "distillation" and "sublimation," there is much both to interest and instruct. We were particularly struck with the various uses to which caoutchouc, as prepared by Hancock, may be applied as a medium of connection between the tubes of an apparatus. Its toughness and flexibility render it much more convenient than any other substance.

It is singular that quicksilver-bottles should not be recommended as retorts for the production of oxygen and carbonic oxide gases, as they are so much cheaper than those usually made for that purpose. By forming a screw on a bent gun barrel a junction is made much more secure than that which is formed by grinding. Such a tube may be transferred to any other iron bottles as the screw is almost always the same.

The subject of precipitation so very important to the chemist is treated of in the eighth section. Nothing unusual is there related, except the mode of agitating a solution by blowing through a tube having its lower end near the bottom of the containing vessel.

The ninth section contains instructions for forming filters, for decanting, washing, &c. &c. The description of the mode of making a paper filter is perhaps more obscure than any other passage in the book. Instead of the mode of performing hot filtration suggested by our author, we would recommend Dr HARE's apparatus for the same purpose or a wooden box into which steam is directed so as to surround the funnels which pass through it.

In the tenth section on crystallization we noted particularly the following:—

> "A very interesting and in some cases useful process is the gradual conversion of several small crystals into one large one. Dr WOLLASTON, who communicated it to me, has permitted me to describe it here. If a small quantity of sulphate of nickel in solution with a slight excess of acid be evaporated in a watch glass, it will probably, on cooling, yield a crop of numerous small crystals; but if set aside for a few weeks in a place subject to the changes of atmospheric temperature, its appearance will gradually alter, the small crystals disappearing, the larger increasing, until ultimately only one or a few large ones are left. This effect depends on the greater extent of surface exposed by the small crystals, as compared to their mass, than by the larger crystals; so that when any increase of solvent power in the surrounding fluid is occasioned by a slight increase of heat in the atmosphere, the small crystals are dissolved to a greater extent than the others;

but upon the decrease of temperature, the deposition is equal upon all. In this manner the small ones are gradually dissolved, and the large ones become larger."

In the eleventh section we observe some curious suggestions relative to evaporation by exhaustion. After mentioning LESLIE's mode by sulphuric acid, the author tells us of Mr COOPER's mode of removing an exhausted vessel from the plate of the air-pump without letting in air, and also describes another mode of exhaustion by spirits of wine as practised by cuppers. The exhaustion by a Torricellian vacuum for similar purposes, stated in Dr ARNOTT's last work, is not noticed.

The twelfth section treats of coloured tests. The mode of preparing solutions of red cabbage is the common one. The reviewer finds that red cabbage cut into small pieces, and dried under sand in trays, retains nearly the whole colouring matter, and may be kept in sealed bottles for a very long time.

In the thirteenth section on "crucibles" there is mentioned a very curious fact alluded to elsewhere. Solids, continuing such, become some of them crystalline and brittle even by time without artificial heat, but more rapidly when occasionally heated. Silver crucibles are subjected to this change and become very brittle.

To every student we would recommend a careful perusal of the instructions for lighting and sustaining a good fire, for this is one of the things least attended to, though of great importance and of difficult execution.

Our limits do not permit us to notice in the fifteenth section much that is curious and useful respecting pneumatic chemistry. The reader will be surprised to find, in such a work, no notice taken of the useful and simple self regulating gas reservoirs of GAY LUSSAC and Dr HARE. He will also look in vain, under the head of "measurement of gases," for the various useful contrivances of Dr HARE for that purpose, whilst he will see a delineation of other instruments much less philosophical and convenient.

It may not be useless to state, that a very good mercurial cistern may be made of sheet iron, turned up and folded at the edges so as to leave no apertures below the upper edge of the box thus formed. Paper boxes are sometimes made in that manner. To give the box strength it may be imbedded in a wooden trough in resinous cement. By inserting a wooden mass, shelves and a well being made in it, the trough is completed.

To distend a caoutchouc bag the chemist in Philadelphia ties it to the spout of a hydrant and turns on the water. This answers as well as a forcing pump and gives less trouble.

Dr **Hare**, to hold certain gases, uses leather bags with patent brass rivets.

We have now reached the subject of "tube chemistry," constituting the most original as well as the most curious and entertaining part of the elaborate volume of **Faraday**.

By treating tubes with the bellows blow pipe a good imitation, on a minute scale, may be made of a great variety of glass apparatus. Thus may be constructed retorts, receivers, impregnating apparatus, &c. &c. A chemist of some experience will read this section with surprize, and lament his former ignorance of much that would have promoted his success in investigation, and saved him a great deal of trouble and expense.

A few hints, taken from this section, will enable one, accustomed to devise, to conceive and execute the greater part of the suggestions of our author. Others must study the author, for every paragraph is instructive.

A tube sealed at one end, and bent at two points equidistant from the ends and from each other so as to give the sealed end a downward and the open end an upward direction, is useful for solution of bodies of difficult solubility where heat is necessary, because the liquid solvent, being condensed in the lower angle of the tube, may be often poured back on the solid. The above process is an example also of distillation.

By a greater number of flexures, a greater number of points of condensation may be formed and the liquid, driven from angle onward to angle by advancing the heat in that direction, is subjected to successive rectifications.

"It will be unnecessary to refer minutely to the capability of transferring backwards, afforded by different inclinations of the parts of the tubes. Thus the more fixed and more volatile parts may both be returned and redistilled without mutual interference." "Tubes are exceedingly convenient for the heating or even igniting of numerous substances in the vapours of volatile bodies which are either solid or fluid at common temperatures. If a small piece of naphthaline be put into a tube, closed at one end and held in an inclined position and the bottom be heated, the napthaline will melt, sublime, condense above, and descend to the lower end in a stream; but as soon as it reaches the hot part it will be revolatilized to be recondensed above and to flow down as before."

Other solids and liquids may be treated in a similar manner.

"It will be evident that any fixed substance, placed in the bottom of the tube, may, under these circumstances, be heated to redness for a long time in the vapour of the volatile body, and thus the facility of acting on metals, metallic oxides, &c. by such agents is obtained."

After pointing out ingenious modes of drying precipitates, evaporating, &c. in tube apparatus, Mr Faraday describes what he calls a *tube-pneumatic apparatus*. The forms and uses of such may be readily conceived. The advantages are obvious in operating on explosive or expensive and rare substances. By bending a sealed tube near its open end so as to give its mouth such a direction as to resemble a hook, a good mercurial gas-holder is constructed, in which with a very small portion of mercury we may collect and examine gases.

At page 413 is described Mr Ker's mode of bending tubes so as to place, when the angle looks downwards, the vertex on the lower side, not immediately under the vertex on the upper side, but a little on one side, nearer to the sealed end. By such an arrangement any solid dropped into the leg having the open end will slide down beyond the upper side of the vertex into a liquid which fills the other leg and the angle, and if a gas be the result of the action produced, it will necessarily ascend into the sealed extremity and may be there collected and examined. To bend a tube after the manner described, it must be held in a direction oblique to the flame, and then bent so as to make that part of the heated portion of tube which is nearest the sealed end the vertex of the whole figure.

By means of a tube having several angles in a serrated manner, we may imitate Woulfe's apparatus, the lower angles representing the bottles, and the upper angles the connecting tubes. Gases passed in at one end will force themselves through the liquids, and finally, if not absorbed, pass all the angles and escape at the other extremity.

Every one has heard Mr Faraday's name connected with the curious subject of the liquefaction of gases by pressure, and if not already acquainted with the mode of obtaining his results will be surprised as well as charmed with its neatness and simplicity.

"A piece of tube about eight inches long is to be selected, and its extremity sealed : then being softened in the lamp at about five inches from the closed end, it is to be bent not sharply, but obtusely and roundly, until the two limbs make an angle of about 130° or 140°. Some cyanuret of mercury is to be pulverized and dried in a wedgwood basin on the sand bath or over a lamp at temperatures which, being above that of boiling water, are insufficient to decompose the salt, or at least to cause much change; it may be allowed to become a little brown, and is then to be introduced into the tube until it fills three-fourths of the closed limb. The open limb is afterwards to be wiped clean and dry, and then heated and drawn off so as to leave only a minute aperture."

The apparatus is now to be filled with an atmosphere of cyanogen and sealed hermetically. Previously to sealing it ascertain the existence of a combustible jet. When cool, invert the syphon-like tube, and begin the evolution of cyanogen by means of a spirit lamp: and cause its condensation by cold applications to the other extremity. The best test of a proper degree of heat is the evolution of a *very little* mercury. The heat should be confined as much as possible to the part holding cyanuret, and the condensation should not proceed so rapidly as to make the moistened tow or paper attached to the cooled end sensibly warm, or the moisture *visibly* to evaporate. The cyanuret becomes discoloured, fluid, and finally solid, and thus indicates the completion of the experiment. The liquid cyanogen in the shorter limb occupies nearly half an inch of its depth at the close of the operation, but disappears in a few days in consequence of the hygrometric attraction of the black mass in the opposite limb. A very moderate heat causes again its evolution.

Those gases which may be evolved without heat are extricated by placing the liquid in one limb and the solid in the other of a bent tube, and then closing it hermetically. By a proper degree of inclination the liquid is thrown on the solid, and the gas evolved is collected in a liquid state in the emptied end by refrigeration. Thus may we obtain liquid ammonia, muriatic acid, hydrosulphuric acid, &c. &c.

The mode of ascertaining the degree of pressure in such cases is interesting. This knowledge is obtained by means of *very minute* tubes graduated, sealed at one end, and holding air in the sealed end and a small column of mercury near the mouth. The degree of compression is measured by the diminution of the length of the column of air in the air guage, which is placed within the tube on which the operator is experimenting.

At the close of this section Mr Faraday remarks that

"The economy and exceeding facility afforded by this kind of apparatus in situations distant from the usual sources of more perfect instruments, and its superiority in some cases over any other that has yet been devised, are sufficient to recommend it to full and general attention."

The section devoted to "electricity" and "galvanism," though full of important matter, contains little not generally known. We have to regret the omission of any allusion even to Dr HARE's sliding rod eudiometer in a section a considerable part of which is occupied by the subject of eudiometry. Decidedly the best instrument of its class, whether we regard its convenience or its accuracy, it is little known to the English public, and would therefore have appeared as a novelty. Nor are we less surprized at the adherence to the electric spark for eudiometric explosions, since the *calorimotor* of HARE depends not on the state of the weather, nor the dryness of the eudiometer, for *its* efficiency, but is *always* easy of application and never disappoints the operator. An experiment on the atmosphere may, with this instrument, be completed in less than two minutes, and that too without requiring the wetting of more than the tips of the thumb and finger.

In this section we observe the following remark:

> "When five or ten minutes intervene between one experiment and another, it is worth while raising the plates of a battery of ten or twelve troughs or less from the cells; this affords the additional advantage of an increase of action upon their re-immersion, due in some way to draining or exposure to air."

The mode of draining by a revolving trough is too well known to American chemists to need any comment here. The passage is quoted to introduce an experiment devised by Dr HARE, which shews that the recovery of power depends solely on the presence of *oxygen* or other *electro-negative* substances. For, if we place a voltaic arrangement in a tubular bell glass, and apply to its tubular aperture a pipe and stop cock, and then immerse it in an acidulous solution, the bell glass will be filled with hydrogen gas. No recovery of power ensues from repose in that gas, nor when nitrogen gas is substituted; but chlorine or oxygen or common air reinvigorates the instrument, and in them it returns to its ordinary efficiency. We are thus enabled to advance a step towards an explanation of the power obtained by the use of acidulous and saline solutions, inasmuch as they cause the readier extrication of oxygen from the water of the solution.

The section on lutes contains nothing original. The mixture of rye flour and linseed meal, so much used by the French chemists for luting glass, is not noticed.

A very long and useful section is devoted to the subject of glass blowing, bending, cutting, tube sealing, &c. &c. The mode of fixing wires in glass is admirably described, and deserves a full quotation did our limits admit of it. The file is often used to act on glass. Mr F. has omitted to mention that it works much better when *kept wet*. In a subsequent section he advises the use of wet sand paper in cleansing copper. The annealing of sealed and bent tubes, so important for the condensation of gases, we commonly perform on a sand bath, leaving them there until the fire goes out. Radiant caloric, according to Dr HARE, will not break even a very thick glass tube, and therefore he bends or closes such tubes by bringing them near to a very fierce anthracite fire. In blowing glass bulbs our glass workers use gum-elastic bags, by which more force is obtained and no moisture introduced.

The remainder of this able work consists of rules for cleansing; general rules for young experimenters; uses of equivalents, and Wollaston's scale; uses of miscellaneous articles; magnetism; and a course of inductive and instructive practices for the practical advancement of the student. In all of these we perceive the mind of the master-artist, one thoroughly acquainted with both the theory and practice of his hermetic science, and discoursing of it as solicitous for its honour and anxious for its promotion. Withal there is throughout the modesty of one who has learned enough to be able to perceive the vast field of science yet before him, and to set the less value on what has been done, by knowing how much yet remains to be done. With more pretension, the volume before us might have encountered censure for several faults of composition, and for some defects of arrangement and combination. But such faults are not numerous nor offensive, and must be pardoned in a work abounding in excellence and full of usefulness. We felt also, as Americans, disposed at the outset to complain of the John-Bullism of Mr FARADAY, relative to ourselves and the chemists of continental Europe; but as he is in this regard much more liberal than the great body of his scientific countrymen, we are willing to attribute the prejudice under which he still labours to that blemish of our common nature which, while it wont

"The giftie gie us,
To see oursels as ithers see us,"

by a parity of delusion, denies us the power to value aright the qualities of strangers and aliens.

ARTICLE XVI.—*Traité de la Maladie Scrophuleuse, &c.* Par C. G. HUFELAND.

(Concluded from p. 126.)

Our readers will find by reference to the preceding number of this Journal, that our review stopped at chapter third, in which the learned and accomplished HUFELAND proposes the doctrine, that scrofula has its primitive seat in the solids, and that it consists in the two-fold condition of debility and a conjoined state of irritation of the lymphatic tissues, together with a peculiar alteration of the lymph itself. We offered, formerly, some remarks on his idea of debility and irritation, and shall take up the volume in this place with his remarks on the condition of the lymph in scrofula.

M. HUFELAND remarks, that much error on the subject of this affection has arisen from the circumstance, that we have been heretofore unwilling to look for the occasional causes, except in the solids themselves, and have thus made no account of the fluids, whose influence must, nevertheless, be regarded as immense in some cases; for no just view can be taken of any system of organs, without attending to the *reciprocal* actions of the solids on the fluids, and of the fluids on the solids. Now, if this rule is of general application, we ought, à priori, to conform to it in our study of a system, which draws the largest proportion of its materials from the digestive tube, and from the exterior of the body; for these materials are far from having undergone that degree of elaboration which renders them fit for being identified with the living tissues. These fluids are the elements of the solids; the natural stimulants, without the application of which the irritability of the vessels could never be excited into action. The fluids are, therefore, the *mobiles* of the functions, each one modified by its peculiar nature. We are bound to take into every pathological consideration, or proposition, not only the mass, but the *quality* of the fluids. If, says the author, the fluids exert so great an influence on the organs, need we be surprised at the changes of the lymphatic system effected by the lymph?

In the modifications which the lymph undergoes, it may become too thick and viscous; too thin and watery; too irritating on account of a superabundance of acid, saline, or alkaline principles; all of which may depend on the quality of the ingesta, the state of the digestive, cutaneous and pulmonary organs, the qualities of the atmosphere, the state of the secretions, &c. &c. and finally—

> "That affection of the lymphatic system that constitutes the scrofulous disease, alters the quality of the lymph (this is what is denominated *acrimony* of the lymph, *scrofulous virus*)". 55.

Dr Hufeland's fourth chapter treats of the "formation of the scrofulous acrimony."

> "If," says he, "it be true, as there is no reason to doubt, that all the fluids of the human body are specific stimuli, that is to say, if they possess the faculty of producing an impression *relative* to the sensibility of the vessels which contain them, it will doubtless be admitted, that this faculty may either be increased or diminished. Its increase then is what I call *acrimony*. In other words, whenever any fluid is more stimulating than it should naturally be, there exists an acrimony of that fluid (*acrimonia, dyscrasia acris*).
>
> "Hence it follows, that there is no absolute acrimony; every thing depends on the relation that exists between the sensibility of the solids and the impression made by the fluids. Thus, what is acrimony to one person is not so to another, and, even in the same individual, such an humour is irritating to this organ, and not at all so to that—a phenomenon which has its analogue in the action of tartar emetic, so stimulating to the stomach, while it is not at all so to the tongue." 57.

Such is his view of acrimony; a view so plainly deduced from facts and observations, that the most ultra solidist of the age cannot refuse to admit, at least, that it is philosophical. It may be said, that this reasoning is mere assertion; but if medicine is a body of doctrines, as contra-distinguished from what has been more rigorously called science, Dr Hufeland's humoralism, so logically inferred from all the foregoing, is entitled to the praise of being, at least, good doctrine. Pathology is not science; it is only doctrine. He is the greatest dogmatist who presses his proposition in the very teeth of reason and argument.

Our limits will not permit us to follow the learned author in his disquisition on the nature of the scrofulous acrimony. We can only sum up the several heads of its "effects:" and 1. It irritates the lymphatic, nervous and vascular system. 2. The lymph acquires a tendency to viscosity, or to thickening. 3. It loses its nutritive qualities. 4. It acquires a tendency to acidity. 5. At its greatest intensity it is associated with a putrid condition. And 6. At this period, the scrofulous disease may become contagious. It must be understood, however, that the author only considers the affection as capable of becoming contagious in this, its most exquisite form. The opinion of its contagiousness is supported in a foot note of the French translation, by adducing, as authority, PUJOL, LALOUETTE, BORDEU and BAUMES, while, on the other hand, numerous experiments are cited of inoculations with the virus which produced no specific result—experiments which ought to be considered as decisive of the question, even if the question had required the aid of such experiments, which is doubtful.

The second section of the work is entitled, Description of the Scrofulous Disease; and for greater facility in laying down the diagnostics, he divides it into three stages. In the first it is still concealed, but the disposition to it exists. In the second, it manifests itself by all its characteristic symptoms. In the third, it tends to disorganization. We can spare only enough space here to say, that setting out with the first division, he enumerates successively, with a greater or lesser number of remarks on each head, the features of the malady under the heads of diathesis; causes; external facies of the individual; irregular development of the organs; different kinds of complaints even commonly thought insignificant, but which are connected with the strumous diathesis; change of the digestive forces; and lastly, scrofulous fever. Of the last mentioned, he says, he is convinced that most of the fevers of children, denominated gastric, slow, mesenteric, and fever of dentition, are only precursory symptoms of the scrofulous diathesis, or the certain signs of its presence, even though all its peculiar symptoms should be as yet not present. He proposes, therefore, to call it scrofulous fever. We have it not in our power to transfer his description of this fever to our pages, because it cannot be condensed, and the whole account is too long.

The symptoms of the scrofulous disease in the second degree are described in a masterly manner. In this stage the vital forces are not alone affected, but there are lesions of the organs as well as functional derangements.

1. The first and most common symptom is swelling of the glands, particularly those of the neck—they are moveable, elastic, colourless and not painful. They gradually become immoveable; many glands being involved a considerable tumour is formed; and lastly, the lymphatics leading to them partake of the diseased condition, and can be felt hard and cord like.

The peculiar character of these scrofulous tumours, and that which with a little experience serves to distinguish them from all others, is a certain degree of elasticity familiarly known to practitioners, but not capable of being described. He also observes, that although these tumours may remain in an indolent state for several years, yet in their commencement their *existence* is very *inconstant;* they appear and disappear by turns.

As the scrofulous bias increases, the glandular tumours grow harder and less moveable, they become red, and a deep seated pain is felt in the interior of the gland, suppuration is established, the product of which differs, as is well known, from that of the phlegmonous inflammation. We shall not follow our author in his account of the purulent discharges in these cases.

2. Cutaneous eruptions of various kinds, particularly on the head. These he regards as in some measure critical, serving as it were to conduct or lead the disease from the interior to the exterior surface of the body.

3. Inflammations of organs that contain many glands,—as ophthalmies; that essentially located in the glands of Meibomius, called scrofulous ophthalmia; hordeolum and fistula lachrymalis, also effects of the strumous constitution; and ulceration of the free edge of the tarsus, which is so characteristic of this habit, that it may be confidently asserted to exist in those children who labour under this sort of inflammation.

4. Mucous discharges,—as blenorrhea oculorum et aurium.
5. Tension and hardness of the abdomen.
6. Scrofulous ulcers.
7. Lymphatic tumours. And
8. Goitre.

These all are marks of the scrofulous disease, and with them terminates his account of the second stage or degree. We must omit any notice of what he has observed on the third stage, or disorganizing degree, in order to take up our analysis at p. 119, where he treats of the progress and prognosis of the scrofulous disease.

> "Of all the infirmities that afflict the human species, this is certainly one of the most protracted (un des plus *lentes*) and difficult to cure. It belongs to the class of constitutional diseases—those diseases which are so identified with the constitution, that it must be wholly regenerated in order to destroy its native taint.
>
> "Nature is more capable than art of effecting this grand revolution. It is not uncommon to see the strumous habit lose gradually some of its intenseness, and then be entirely effaced by the influence of age. It is in this way that the natu-

ıal changes effected in the human organization by the advance in years causes the scrofulous vice to appear and disappear by turns.

" Viewed within its ordinary limits and in its primitive seat, scrofula is a disease of childhood, and one of the commonest diseases of that period of existence. It often comes on in the first year of age, and even earlier—an incontestable proof that it is hereditary. Commonly it affects the mesentery in children two years old, and attacks the lungs at puberty. It very frequently appears too in the course of the third or fourth year, sometimes even in the seventh, examples of which I have witnessed; but it is very rare to see its first attack made at the age of puberty.

" The scrofulous disease commonly disappears before the seventh year; in some cases, however, it persists until the age of puberty and then vanishes entirely. Nevertheless, on some occasions, it strikes root so deeply that it accompanies the individual to the grave, always assuming during its progress some new form.

" But, the march of this affection is not always steady. On the contrary, intermissions are very frequent; they last sometimes for several years, so that the patient believes himself cured, when suddenly the disease returns either under its old or some new aspect. It has been known to recur, invested with all its peculiar characters, in women arrived at their climacteric,—that is to say, after having been suspended during twenty years of the prime of life and sexual vigour. At this epoch scirrhus and cancer, tubercular phthisis and mesenteric tabes, are not, as might be supposed, accidental affections, but the tardy results of the scrofulous diathesis which seems to arise as if from a long repose.

" It is proper here to recollect the division which was made of scrofula, according as it was determined to the interior or exterior organs of the body. In some cases, and principally at the commencement, it possesses a manifest tendency towards the periphery of the body; witness the glandular engorgements, the cutaneous diseases, the ulcers, ophthalmias, &c. &c. As long as these symptoms last, the internal functions are freely exercised; but if they disappear, eithei spontaneously or in consequence of inconsiderate applications, while the scrofulous diathesis still exists, those organs which are placed in the interior of the body become affected in turn, and then we have tuberculous consumption, marasmus, hydrocephalus, ascites, nervous diseases, &c. On the other hand, all these affections vanish on the sole ground of the reappearance of the external symptoms. On this reciprocal succession of exterior and interior effects of the scrofulous disease, is based one of the most essential principles of its treatment. Such also is the foundation of this common and well known truth, of which my practice has furnished a thousand proofs, viz. that those children who have early had tinea, crusta lactea, or other analogous affections, are commonly exempt from the internal ravages of the scrofulous vice, and subsequently enjoy a good state of health."

Section third commences at p. 124. It consists of an account of the treatment, which must rest on the following indications.

1. To take away the causes of the scrofulous diathesis.
2. To remove acids and saburra in the primæ viæ, by keeping the

bowels open, and then prepare the way for the antiscrofulous remedies, by absorbents, resolvents, anthelmintics, &c.

3. To raise the tone of the constitution, and especially that of the lymphatics. In fulfilling this indication, it must never be forgotten, that the resources of hygieine are not inferior to those of pharmacy. Good diet and wholesome air are not less useful than bitters and astringents.

4. To regulate and calm the functions of the lymphatic system, by diminishing the irritation by which it suffers. The means here consist of revulsives, warm baths, antimonials, mercurials, cicuta, dulcamara, belladonna, opium, baryta, lime and guaiacum, also the tonics.

5. To furnish good aliments, rich in nutritive principles, a pure dry air, light, and sunshine.

6. To correct the immediate effects of the scrofulous vice, such as engorgements of the glands, acrimony of the lymph, &c.

Dr HUFELAND directs us, after having removed the patient from the reach of the morbific causes, and having prepared in a proper manner the *primæ viæ*, to proceed to the curative means. These are the antiscrofulous remedies more properly so called, as they exert a special power on the lymphatic system, as well as on the lymph itself: he names among these, mercury, antimony, and the resolvent plants, such as tussilago (colts-foot), beccabunga (brooklime), and taraxacum (dandelion). Care should be taken to add, on proper occasions, some stimulants of the digestive tube, in order more surely to obtain the good effects of the medicines.

When by these means we have obtained a resolution of the glandular tumours, cicatrized the ulcers, and removed or decidedly diminished the symptoms of scrofulous inflammation, we are to pass on to the employment of tonics. The only one to which we can recur at an early period is the acorn coffee, of which more will be said hereafter.

Great attention should be given to ascertain the presence of irritation, whether general or local; and antiphlogistic methods must be employed in combating it if it exists. It is often necessary (as in the more violent ophthalmias) to order local bleedings—here tonic medicines would do great mischief. These cases are not, however, frequent; for in the large majority a condition of such decided debility exists, that we may safely prescribe corroborants from the commencement, especially in rachitism, where martial are not less efficacious than mercurial preparations in other forms of scrofula.

Dr Hufeland candidly avows, that in those cases whose roots are struck deep into the constitution, we can expect a radical cure from time alone. The disappearance of a gland or a cutaneous eruption, pronounced a cure, is not a cure; the principles of the disease still exist, and sooner or later it will manifest itself by symptoms not to be misunderstood. To prevent this return, reference must occasionally be had to the preparations of mercury and antimony, until the symptoms are utterly or nearly extinct. In the interval tonics, combined with resolvents, must be exhibited: and if every thing proceeds favourably, suspend the use of medicines for a month; nevertheless, the dietetic rules, the baths, and acorn coffee, are always indicated. Proceeding in this manner, we may hope to destroy the scrofulous diathesis in about one year.

Dr H. next proceeds to inculcate, at considerable length, the importance of keeping always in view the tendency of exterior scrofula to retreat to the interior organs, and, with that view, he urges the propriety of exciting and keeping at the surface several of those forms of disease which in some instances are real critical *efforts*, capable of judging the scrofulous disease fully, and completely terminating it. These general remarks on the treatment extend from p. 124 to p. 137, and then commences chapter first of section third.

The first chapter comprises rules and observations concerning the dietetic treatment, as aliments, air, exercise, frictions, cleanliness, and warm baths. Of these we will not cite any more than the above titles.

Chapter second, p. 150, is entitled Pharmaceutic Treatment. He lays down eight rules, of which the three first might be fully expressed in the following formula. 1. Have patience, 2. and nature will sometimes cure your patient, 3. especially in the spring of the year. 4. The fourth is, do not be deceived by the suppression of scrofulous tumours. They are symptoms only of a general affection, wherefore do not rely on topicals alone. 5. Do not believe in any *specific* against scrofula; it is a disease of the whole constitution and recognizes many causes, therefore there is no specific. 6. Pay great attention to the complications—get rid of them first if possible, and then you have only the principal disease to combat; but, the complications will often modify or prevent the effects of your remedies. 7. Vary your curative means from time to time, to avoid the inconveniences which may arise from habit. 8. Never forget that the lymphatic system is the primitive seat of the scrofulous diathesis, and search carefully for all the means that are capable of promoting absorption.

Next follows the enumeration of the medicines, which are all dilated on more or less fully, and the account of which extends from p. 155 to p. 294. Now, it is manifest that we cannot give even an abstract of observations made on so many pages, and the more particularly as his remarks are in general characterized by briefness and conciseness. We will present our readers, however, with a catalogue of the heads he treats of, formally. They are, emetics, purgatives and digestives, antimony, mercury, muriate of baryta, muriate of lime, cinchona, and other astringent tonics, acorn coffee, iron and its preparations, aromatic and stimulating tonics, narcotics, cicuta, opium, henbane, belladonna, bittersweet, digitalis, assafœtida, burnt sponge, alkalies, absorbents, lime water, soap, guaiacum, colts-foot, juices of plants, herbs, bitter extracts, and inspissated juices of herbs, mineral and sea waters, injections, excutories, baths. Then come topical means, and local treatment of the symptoms.

We will now proceed to select portions of his observations on the various medicines above detailed. And in the first place, HUFELAND commonly commences the treatment, by the exhibition of an emetic, and recurs from time to time to their employment, even if there be not present any very manifest signs of gastric disorder, because, he thinks, they communicate a favourable shock (*secousse*) to the lymphatic system. He prefers the following formula in most cases. One or two grains of emetic tartar, with from twelve to twenty grains of ipecacuanha, in half an ounce of oxymel of squill, and an ounce and a half of water. The patient takes a table spoonful every quarter hour, till vomiting comes on.

Purgatives. Under this head, he *denounces the neutral salts*, and commends the irritating articles, and of these he gives the preference to *jalap*, which removes often the tumid state of the belly, the depraved digestions, and such other symptoms in the chylopoietic organs as had been in vain attacked with the neutral salts, &c. He often perseveres in the employment of purgative medicines for several weeks. Aloes is recommended, particularly in the second stage of scrofula, and the author lays down, in several pages, the motives and means of its administration, illustrated by a case in detail, with allusion to others. Rhubarb, as might have been expected, receives a full share of his attention and confidence. On the whole, a considerable stress is laid by professor **Hufeland** on the employment of purgatives in scrofula; and our readers will, in viewing this subject, doubtless refer with pleasure and advantage to the effects of this class of medicines in marasmus, in morbus coxarius, and similar diseases depending upon a disordered state of the lymphatic apparatus. Perhaps the best proofs of the propriety of Dr **Hufeland**'s inculcations on this subject may be found in the works of **Hamilton** and **Abernethy**.

Antimony. This medicine, according to the author, induces a specific irritation in the lymphatic and glandular systems, as well as in the stomach and bowels; he conceives that we should attribute its efficacy in the resolution of engorgements, and the correction of secretions, rather to the specific nature than to the intensity of degree of its impression. Its sensible operation is not a necessary condition of its usefulness, for in very small doses, and in stomachs not at all irritable, its resolvent powers are well exerted.

Antimony is never more efficacious in scrofula than in those cases where the skin performs its functions imperfectly, or where its secretions are morbid, as in eruptive forms of the affection and in ulcers. The author very properly warns us against the ill effects of a long continued use of the article, and of the dangers incurred by those who take it in states of great debility, where, if persisted in, it injures not only the tone of the constitution in general, but particularly that of the skin and the alimentary tube.

Mercury attracts a large share of the author's attention, which is devoted to this metal from p. 172 to p. 192. He praises its antiscrofulous powers very highly, as one of the most efficient as well as ancient remedies in these cases. We cannot omit the remark, that from the undenied and powerful influence of this mineral over the lymphatic, glandular, and capillary systems, a perfectly natural inference would arise as to its applicability in these cases; and yet from this very circumstance an increased watchfulness and considerateness ought always to govern its exhibition. How many cases of incipient phthisis have been nipped in the bud by the happy and timely administration of mercurials; but on the other hand, what practitioner has not seen the same disease precipitated and rapidly developed under its wanton or ignorant employment?

Muriate of Baryta. On this article, Dr **Hufeland** published a separate monograph in 1794. This medicine is incapable, in our author's opinion, notwithstanding the high estimation it has heretofore enjoyed, of eradicating the strumous habit, unless it be used in connexion with bitters; since it possesses no tonic power whatever. But in the management of the symptoms, such as glandular engorgements, dropsy, cutaneous affections, &c. it does not yield in usefulness even to mercury and antimony; it is less debilitating to the digestive organs, and may safely be continued longer than the substances just named. The muriate of baryta is specially recommended in those cases where the lymphatic system is highly irritated, or where the symptomatic affection is located in a very irritable organ, as, for example, in the eyes or in the lungs; in the last mentioned seat of the scrofulous affection, he tells us that he considers the muriate as one of the best remedies we are acquainted with, and this he derives from repeated experience of its powers. Half a drachm of the muriated baryta, dissolved in one ounce of distilled water, may be given in doses of from 10 to 50 drops, according to the age of the individual.

In diseases of the skin, the activity of the medicine is much increased by the addition of ʒiij. of emetic wine to each ounce of the solution, and by giving at the same time black sulphuret of mercury, PLUMMER's powder, cicuta, dulcamara, &c. &c. To weakly persons he administers the baryta in combination with iron; particularly, according to the following formula: Muriate of baryta and muriate of iron, each ʒss. dissolve them in distilled water and syrup of orange peel, each one ounce: 20 or 30 drops of this mixture are given every third hour. In a note of the translator, we have an account of the introduction of the baryta into practice, and a detail of various opinions as to its efficacy and the necessary precautions in its employment, which requires great care: we refer our readers to the work, p. 197.

Passing by his disquisitions on the bark, we come next to *Acorn Coffee*.

> "Coffee made of acorns (says HUFELAND) is less stimulating than the cinchona; hence it possesses the advantages without the inconveniences of the astringents—the stomach bears it better. In fact it is an excellent stomachic, and its effects are not limited merely to increase of tone in the digestive organs and the rest of the constitution, but it acts as a very good resolvent in mesenteric obstructions kept up by debility. The acorn coffee also has the property of being nutritious as shewn by the *embonpoint* of those who take it. Let us thank MARX for having made it widely known. How many children in marasmus has he not saved by it?

> "The infusion of acorns is one of my favourite remedies in mesenteric atrophy, incipient rachitis, glandular engorgements, asthma and cough. Continued for a long period it is one of the most powerful means in our reach for destroying even the deepest rooted scrofulous disposition.
>
> "I have often caused it to be taken six months in succession with a success so complete, that by it alone I have dissipated mesenteric obstructions of the worst character."

The acorns of the quercus robur are employed,—each acorn ought to be cut into four pieces, torrefied, reduced to powder and prepared as coffee; sometimes a little coffee is added to them. The translator in his note alludes to the well known and remarkable fineness of fibre in pork where the animals had been sometimes fed on acorns. Our southern friends, whose fine hams are certainly not at all inferior to those of Westphalia, are well aware of the importance of what is called a good *mast* year in this regard.

Narcotics. The direct and essential effect of the narcotic is to diminish sensibility, and in a degree irritability also; but inasmuch as the author regards scrofula as a combination of irritation and debility, he remarks very consistently with his theory, that narcotics may answer very well in fulfilling the former irritation, while they are less adapted to the latter.

But in cases where the lymphatic irritation is primitive, or in other words where it is not the consequence of debility, this class of medicines is worthy of our highest confidence. Hence it is manifest that they will be particularly recommended in the pseudo-scrofulas. As for example in the glandular tumours that depend on a syphilitic taint, or measles, or any metastasis,—in fact, wherever debility does not form the principle of the morbid condition.

It follows, from all his observations, that the narcotic medicines are incapable of destroying the scrofulous diathesis, but they may contribute thereto (*a*) by repressing the vicious action of the lymphatic system, (*b*) by diminishing the natural disposition of that system to a state of irritation, (*c*) by modifying the too irritating action of tonics. Whenever therefore they are administered, they should be combined with tonics in order to protect the digestive organs against their debilitating operation.

Externally applied in the proper cases, they are of signal efficacy in removing scrofulous tumours, ulcers, &c. &c.

Among various articles of this class whose virtues and uses he signalizes at more or less pains and extent, he speaks of the *Dulcamara* as a precious remedy. It has the double property of favouring the resolution of engorgements, and of exciting the secretions; its narcotic effects are very slight except it be given in a very large dose. It has this special merit that it does not disturb digestion, but rather promotes than weakens the appetite.

At p. 246 he speaks of *Digitalis purpurea*, which exercises a powerful influence on the lymphatic system, facilitating absorption, augmenting the secretions from the kidneys, and sometimes even those of the salivary glands; hence, he thinks, we ought to regard it as one of the most heroic antiscrofulous remedies. But he warns us against the circumstances which might follow the prolonged use of the plant; and such of our readers as may design to employ it in large amount, we, in addition to the above caution of HUFELAND, would respectfully refer again to the work of HAMILTON on this plant. Our author thinks that, when cautiously superintended, it is very important; that we may expect from it, especially if given in combination with mercurials, the resolution of engorged glands; the dissipation of lymphatic effusions and scrofulous dropsies; and beneficial results in asthma and scrofulous cough; while the juice and ointments or fomentations made with the herb are usefully applied to the tumours externally. In remarking upon the inconveniences occasionally resulting from the employment of this plant, Dr H. attributes them to the excess of the doses. Observation has taught me, says the author, that if it does not act in a small dose (two grains for an adult) it will not do better in a large one. He also recommends the suspending of the remedy every fortnight.

Burnt sponge attracts also a large share of the professor's attention and regard. As the active constituent of this article is now procured in a pure and separated state, it is probable that such persons as desire the advantages heretofore yielded by burnt sponge will resort to iodine and its various preparations.

In regard to the treatment of engorged glands, indurations, tumours, &c. which are to be treated mostly through the constitution, Dr H. nevertheless gives us ample instructions on the score of *topicals;* in regard to which the first great rule is as follows. We ought as much as possible to favour the resolution, and not the suppuration of the tumours. If then you have charge of an engorgement, which begins to grow red and painful, take good heed not to cover it with irritating fomentations to hasten its maturation. You would augment the atony which is the fundamental principle of the malady. You ought, on the other hand, to favour the resorption of the matter of engorgement by covering it with resolvents, and in this you can generally succeed, because the scrofulous inflammation is always passive and chronic. If a focus of suppuration is established, it is only after a long lapse of time; and here the irritating topicals are far preferable to the common antiphlogistics. The true antiphlogistics in this case are bark, mercury, cold water, cicuta, and the corroborants. Among the best means of promoting resolutions in scrofulous engorgements are,

1. *Volatile salts.* Common volatile liniment (especially if we use camphorated oil instead of ol. olivar. and let the ammonia constitute one-third of the mixture) is very energetic, when the frictions are repeated every two hours, and the parts are kept enveloped in a clean cloth.

Hufeland gives the formula of an ointment from which he has derived the greatest advantages, and as we, after his directions, have employed it with very satisfactory results, we shall copy it. Take ointment of althæa ℥j. beef gall, Venice soap, āā ʒiij. ol. petrol. ʒij. carb. ammon. ʒss. camphor ℥j. Mix and make an ointment, and rub a tea spoonful of it into the tumour every third hour. Not only does he commend its efficacy in external swellings, but even in mesenteric enlargements, obstructions of the liver, &c. &c.

2. Ointment of the juice of digitalis.

3. Mercurial ointment with the former.

4. Ol. petrolei.

5. Camphor—triturate one ounce of camphor with three drachms of aq. ammon. pur. and add half an ounce of oil of olives.

6. Opium, cicuta, belladonna, hyosciamus, whether in the shape of juices, fresh leaves, lotions, extracts or powders.

7. Gum ammoniac, galbanum, assafœtida, especially useful when dissolved in oxymel of squills.

8. Beef's gall.

9. Squill. An old physician gave Hufeland the following as a secret, and "I recommend it," says our author, "expressly." Take roots of squills, any quantity, cut them up and boil them in caustic ley to the consistence of a mucilage, strain it off with pressure and add a little honey and enough basilicon to make a thick ointment. It resolves the most obstinate scrofulous glands and lymphatic tumours without suppuration.

We will here close our analysis of the treatise on scrofula, with the remark, that the book itself ought to be in the hands of the profession, and when that shall be the case, many of our scrofulous patients will be kept out of the hands of the quacks.

ARTICLE XVII.—*De l'Influence des Agens Physiques sur la Vie.* Par W. F. EDWARDS, D.M. Membre associé de l'Académie Royale de Médecine de Paris; Membre de la Société Philomathique, de la Société de Médecine de Dublin, &c. A Paris, chez Crochard, Libraire, 1824, pp. 654, 8vo.

Of the Influence of Physical Agents on Life. By W. F. EDWARDS, M.D. &c. Paris 1824.

Our readers may readily imagine the difficulty which we experience in our restricted limits of making them acquainted with the medical literature of the day. Conceding even that our time was entirely at their disposal, as our best wishes are for their instruction and laudable amusement, we should still find it impossible to present to them the analysis of good works with any thing like the regularity with which these latter appear. Calls of a passing interest are often made on us which must be gratified, and the nearest occasionally take the place of the most valuable productions. We venture these remarks in explanation of the time that must often, as in the case before us, elapse between the appearance of a book and a full review of it in our Journal: we ought to add, in justice to ourselves, another unavoidable cause of delay,—the want of room: with our present efficient organization we believe it would be no difficult matter for us to occupy all the pages of a Quarterly in medical reviews. Of two works now on our table both of them abounding in novelty of experiment and deep research we have selected that of Dr EDWARDS for notice on the present occasion.

The author is a native of Jamaica; who went to France during the revolution. At Bruges, where the family took up its residence, he became a teacher of the dead languages and of the natural sciences; and subsequently, at Paris, directed his attention to the study of medicine, in the anatomical and physiological and pathological departments of which he has displayed great zeal and talent. In conjunction with M. **Gualtier** he obtained in 1811 the prize proposed by the Medical Society of Besançon for the best essay on the structure, functions and morbid condition of the skin. In 1813 he read at the Institute a memoir on the anatomy of the eye, in which he described with unusual minuteness the membrane containing the aqueous humour; and represented it as lining the whole anterior chamber. He treated also of the structure of the iris, which he considers as composed of four laminæ. He obtained his degree of Doctor in 1815 from the Medical Faculty of Paris, choosing for his inaugural essay the subject of iritis and the black cataract. His chemical experiments, performed by him in common with M. **Chevillot** on the mineral cameleon, have been printed in the Transactions of the Royal Academy of Sciences, and are inserted in the Annales de la Chimie et de Physique.

The work before us is a digested summary of various memoirs presented by the author to the society above mentioned, which on two occasions awarded him divided prizes. In 1819 he presented his essays "On the Influence of Physical Agents on the Vertebral Animals," which, in conjunction with the work of M. **Serres** on Osteogony, obtained the prize. In 1820 Dr **Edwards** received the like honour for his experiments entitled, "On the Respiration of Warm Blooded Animals, and the Influence of the Seasons on the Animal Economy," in company with Dr **Dutrochet** for his work on the "Intimate Structure of Vegetables."

Under the head of physical agents Dr **Edwards** classès, 1. air, in regard to its quantity, movement, repose, density and rarefaction; 2. water, in its liquid state and as vapour; 3. temperature, in its modifications of degree and duration; 4. light; 5. electricity. Though all of these are indispensable to the support of life, yet as the want of air is the most urgent, the author begins with this agent. In describing its effects positively and negatively, he selects for the first experiments the family of animals called *Batrachia* including of course the toad, frog, salamander and the like.

The temperature of the mammifera and birds being the physiological character which most distinguishes them from reptiles and fishes, he begins by it the study of warm blooded animals, and regarding the evolution of heat as a function, whatever may be its cause or organs, he endeavours to determine the circumstances under which it varies according to the different conditions, relative on one side to organization, and on the other to the action of external agents.

The intimate connexion between these agents and the nervous system, the organs of respiration and circulation, as well as those of transpiration and absorption, has led Dr Edwards to an examination of a great number of facts applicable to hygeia and pathology.

The work is divided into four parts.

The first part consists of six chapters, in which the phenomena of asphyxia; the influence of temperature; the influence of the air contained in water; the vivifying power of the atmosphere; the influence of the atmosphere on transpiration; absorption and transpiration in water, are each in succession discussed with a reference to the changes thereby induced in the batrachia.

In the first chapter, on the *phenomena of asphyxia*, the author proceeds to inquire into the part performed by the lungs, and whether the mere cessation of the functions of these latter explains the suspended movements and death of the body generally: in other words, whether immersion of animals in media other than atmospheric air produces death sooner or later, or is marked by more varied phenomena, than would ensue on the mere suspension of respiration by withholding its peculiar stimulus. Reptiles from their amphibious nature, and peculiar tenacity of life after different degrees of mutilation, put it in our power to carry on investigations on this subject to a very great extent. We all know how long some of them will live after excision of the heart, and of course after suspension of the circulation properly so called; for what blood remains is not in the circulatory vessels, but forms part of the organs themselves. With the destruction of the circulation is necessarily associated the loss of the respiration. There remains then merely the action of the nervous and muscular systems, which are not susceptible of separation, since we can only judge of the action of the nerves by the movements performed by the muscles; at least this is the case in the lower animals. Thus reduced to the greatest simplicity of function, they guide us to a solution of the question.

If, for example, after having extirpated the heart of reptiles, taking care also to excise the bulb of the aorta, we place an equal number in the atmosphere, and in water deprived of air, the difference in the lives of the two divisions, whatever it may be, will indicate the respective influence of these media on the nervous and muscular systems, independent of their influence over the circulation and respiration. Dr Edwards performed experiments of this nature on salamanders, frogs and toads. Of ten salamanders, with hearts and aortal bulbs excised, five were left in atmospheric air, and an equal number in water deprived of air, or non-aerated. The former lived during a period averaging from twenty-four to twenty-nine hours; the latter survived their immersion but seven or eight hours. Such marked differences can only be explained by the difference of the media; and shew that the air of the atmosphere is much better fitted than water to keep up the action of the nervous system of these animals; and that it has a vivifying influence on the organization distinct from that exercised by means of the circulation and respiration. Similar experiments performed on frogs and toads gave similar results. The following is still more illustrative of the different effects of the two media. If a frog, from which the heart has been removed, be immersed in non-aerated water until all movement ceases, and after pinching it no sign of life is given, we then restore it to the open air, it soon becomes reanimated and sets itself in motion. The reverse is equally evident and prompt. If an animal thus restored be replunged in the water, it loses every sign of life immediately. Thus we may go on alternately reviving and extinguishing sensibility and motion; and shew that while the air exerts a directly positive vivifying effect, independent of its agency through the circulation and respiration, the deleterious action of non-aerated water is not less evidently demonstrated. We purposely indulge in some repetitions in order to impress on our readers this first cardinal point in the author's range of inquiries.

In the section, headed *asphyxia in water*, the first question proposed is, waving the difference of media, the influence of the circulation of black or venous blood on the nervous and muscular systems. Dr E., in this part of his work, considers asphyxia as having begun from the moment that the animal is excluded from air, reserving for another occasion an inquiry into alterations, resulting at different epochs, after such exclusion, in the colour and nature of the blood. The solution of the question now before us depends on our determining, 1. The duration of life under the sole influence of the nervous and muscular systems; 2. The duration of life from the combination of this influence with that of the circulation of the black blood. The difference of time in these two cases will shew the influence exercised over the nervous system by the general circulation removed from contact with the atmosphere. If the effects of dark or venous blood be merely negative, or, as some physiologists have taught, positively deleterious, there ought to be little or no difference of result in these two cases. The experiments of Dr **Edwards** shew, on the contrary, that of four frogs, two of which with their hearts excised were put under a receiver in water deprived of air by boiling, and two others whole in every respect inclosed in a similar manner, and immersed in a similar medium, the latter lived twenty hours longer than the former. Analogous results were obtained from toads and salamanders. In reply to doubts as to the conclusiveness of these experiments, owing to air remaining in the lungs, we are assured that precisely similar effects followed where the air had been carefully expelled from the organs by suitable pressure on the body of the animal, or where these had been entirely removed. The action of the blood deprived of atmospherical air is then to a certain extent favourable to the functions of the nervous and muscular systems, since it prolongs them.

In the section headed "*strangulation*" it is shewn, as we were prepared to anticipate, that the action of the nervous and muscular systems was longer sustained by the dark or venous blood in animals strangled or asphyxied in the common atmosphere, than in others submersed and drowned in water, a fact evincing the positively deleterious operation of this latter medium.

Dr **Edwards** has shewn, by experiments in which frogs were prevented from breathing by a bladder tied round their head, that carbonic acid is formed by the cutaneous function constituting what he calls cutaneous respiration. This serves to explain the length of time which reptiles will live in the open air, after the action of their lungs is entirely suspended as in instances already mentioned.

In speaking of animals enclosed in solid bodies, the author adverts to the many accounts of live toads found in old walls, and in rocks and coal beds, where they must have remained for a great length of time. Objections were made to the conclusions drawn from these alleged facts by supposing, that some fissure or crevice allowed the animal a communication with the atmosphere. We are next told of the experiments of **De Herissant**, who, in 1777, enclosed in sealed boxes of plaster three living toads, and deposited them with the Academy of Sciences. On opening the boxes eighteen months afterwards, in the presence of some of the members, two of the toads were found to be alive; the third was dead. The want of precise data on which to ground the correctness of these experiments led to a denial of their conclusiveness. Dr **Edwards** gives us the details of those instituted by himself, with a view to determine this question. On the 24th of February 1817 he took five boxes of deal wood, three of which were four cubic inches in size, the other two were each four and a half feet long, four feet wide, and two and a half deep. These were half filled with mortar; a toad was then put in each, and kept down with the hand to prevent its moving from its central position,—and it was finally covered over with mortar, with which also the boxes were completely filled. They were closed and bound with cord. Dr E. next took six other boxes of pasteboard of a circular form, each three inches and a half in diameter, and two in depth. Five toads were buried in these boxes with the same precautions as before—the mortar was made smooth on the top so that no fissure should be left, and the tops were put on. Five other toads were at the same time immersed in water in order that a comparison might be instituted between the asphyxia thus produced and that which might take place in the mortar.

At midnight of this same day all the toads in the water were dead; that is about eight hours after the beginning of asphyxia. On the following day at four o' clock in the afternoon one of the boxes of pasteboard was opened, and the mortar having been carefully detached from the toad, it began to move and croak. The opening thus made in the box was again filled with fresh mortar, so as to completely bury the toad. On the fifteenth of March following, the nineteenth day from the beginning of the experiment, after reopening the box the animal was found to be alive. Similar experiments made on salamanders gave analogous results; the whole going to prove that the duration of the life of those reptiles buried in plaster was much longer than when they were immersed in water. The contrasted results obtained by exposing four frogs in a dry jug to the common air, and placing an equal number in dried sand of the temperature of the atmosphere, were as follows. They were examined every twenty-four hours, to see if they were living. On the third day all those which had been exposed to the common air were dead, except one, while all those which had been buried in sand were living, except one. These results, but in a still more remarkable degree, were obtained with salamanders. Here then it would seem, not only that the life of reptiles can be preserved for a long time by their subtraction from the air and interring them in solid bodies, but that this is a means of prolonging it. That the sand contains air is undeniable; but its containing enough for the support of life is most surprizing. We are led to believe, however, that the animals thus circumstanced are kept alive not by the air inhaled into the lungs alone, but by that applied to the skin. The question next occurs can the porosity of the mortar be such as to allow of the transmission of air to the animals buried in it. The negative wo[illegible] *à priori* be sustained by every body, and yet Dr Edwards seems by direct pneumatic experiments to have proved that atmospherical air is supplied through the mortar to the immured animals. When boxes filled with plaster, and containing reptiles in the centre, were placed under water or mercury, so as to entirely exclude air, these animals died as soon as others immersed in the water. Twenty experiments on different species gave identical results. We leave our readers to draw their own conclusions from what is here stated. For ourselves, we cannot well understand how atmospherical air should find access to a toad incased in a solid rock, or in a wall of dry, hard and closely cemented materials, and yet the author obviously intends that we should draw this inference from his premises. The apparent paradox, of reptiles living longer in sand and mortar than in the open air, is explained by the circumstance of the cutaneous transpiration and consequent evaporation being so much greater in the latter case as soon to exhaust the animal, and cause its death. Though slower, this process goes on in the sand, and in plaster or mortar, and produces after a certain time the same result. Hence when the deal and pasteboard boxes, already mentioned, were opened in April, May and June, that is after a lapse of from six weeks to two months from the date of the enclosure of the animals, they were all found to be dead, and in a state of complete desiccation. Dr Edwards has ascertained that frogs and salamanders die much sooner in a vacuum than in water. In the former situation there is added to the want of air a rapid and abundant evaporation.

In chapter second, "*on the influence of temperature*," the author states the modifications, of a very important nature, which this cause will produce in the results of his former experiments. Thus he found that frogs, which would die by asphyxia under water of the temperature of 62 degrees Fahr. in the space of an hour and a half, would survive submersion in water of 40 degrees for the space of five or six hours, and in the same medium at 32 degrees, or freezing point, would not perish under seven or eight hours. Precisely opposite effects, on the measure of the vitality of these animals, resulted from their submersion in water of a more elevated temperature than 62 degrees Fahr. In water of 72 degrees Fahr. frogs perished after a space of time varying from an hour and ten minutes to thirty-five minutes. If the medium was of 90 degrees Fahr. death took place in from thirty-two to twelve minutes: if it was 107 degrees, the animal met with speedy death. It is worthy of remark, that the temperature at which frogs can no longer live in water, is nearly that natural to warm blooded animals. Death in the above experiments could not be the consequence of sudden changes in the temperature of the water: since transitions equally as abrupt in the descending scale were found to prolong the life of the animal. But the most curious fact connected with this part of the inquiry remains to be told. Under the section headed "*influence of the seasons*," the author relates, that, in the early part of November, frogs submerged in water lived twice as long as they did in the month of August in the same medium and of the same temperature. Season was here evidently the cause of the difference of results: but not season as represented by a change in the intensity of light or of electricity, or in the pressure of the atmosphere, or temperature of the air, or direction of the wind; since the animal in water was subtracted from all these influences as far as they are appreciable. The solution of the problem is found in the different conditions in which it had been, prior to the two epochs of experimenting. In the month of October frogs had been, in the open air, exposed to a temperature of a lower grade than during the summer by 13 degrees Fahr. by which diminution they acquired such additional tenacity of life, as to be able to survive twice as long submersion in water in November, as they could have done in August, or even September, in the same medium, and of the same temperature. This tenacity is increased the lower the preceding temperature of the atmosphere and water exposed to it, in which the frogs have lived, down to zero. One of them has remained alive 60 hours under common water at freezing point. No difference was found in the duration of the life of these animals submerged in water of a high temperature, whatever may have been the preceding season. Thus a frog immersed in water of 107 degrees Fahr. died just as soon in December, as another similarly circumstanced in August.

The third chapter, "*on the influence of the air contained in water*," makes us acquainted with several interesting experiments of the author going to shew, 1. that frogs will live nearly twice as long in water with the common quantity of atmospheric air in it, as in the same fluid deprived of air by boiling; 2. that these animals can live for two months and a half in a vessel of water, provided the fluid be frequently renewed, but still contrived so as to keep them submerged, and without any communication with the atmosphere. The temperature of the water varied from zero to 52 degrees Fahr. The frog retained all the time the use of its senses and locomotive organs, and at last died in water which had formerly been renewed every day; but which, on this occasion, was allowed to remain unchanged. The ability in frogs, toads and salamanders thus to live under water of a certain temperature regularly renewed, is shewn by Dr Edwards to depend on the action of the skin on aerated water; or, in other words, they live by cutaneous respiration: the lungs being all this time quiescent in function, containing neither air nor water. In water at the temperature of 54 to 57 degrees Fahr. the batrachia ceased to live in the course of a day, whatever pains was taken to renew the fluid in which they were submerged. In a running stream of the same temperature, these animals survived for a longer time. Hence we conclude, that there are three conditions powerfully modifying the vitality of frogs under water: 1. the contained air; 2. the quantity or renewal of the water; 3. its temperature.

In the fourth chapter, entitled "*of the vivifying action of the atmosphere*," we are made acquainted with the influence of cutaneous respiration by the facts, that a frog with a ligature so tightly applied below the head as to exclude all access of air to the lungs, lived in wet sand twenty days: and of two others, from which the lungs were completely excised, a ligature being put round the pulmonary vessels so as to prevent hæmorrhage, one lived thirty-three, and the other forty days in wet sand, in air varying from 45 to 55 degrees Fahr. To determine to what extent this operation shortened the lives of these animals, Dr Edwards removed the lungs of six frogs which were then submerged in river water of the temperature of 39 degrees Fahr. At the same time, six others, entire in every respect, were similarly submerged. The greater part of these without lungs perished the first; but the only two surviving ones in the end were one of these and one with lungs. The two were found in the act of copulation; and the frog deprived of lungs laid a large number of eggs.

The loss of cutaneous respiration would seem to be worse borne by the *batrachia* than that of the pulmonary. If the skin of a frog be removed, the animal dies in a few hours: this operation may be attended with other effects on the body generally, which renders it inconclusive. It was found, however, that when frogs were placed in a small quantity of water in a shallow glass, so that they could just reach the surface with their mouth, and obtain atmospherical air for the lungs, without any being applied to the skin, they lived during a period of three months. The small quantity of air in the water may probably be taken into account in these experiments, and serve to explain the longer duration of life, since the function of the skin would not, in such cases, be entirely quiescent. Dr **Edwards** found that tree frogs (*rainettes*) which, although they prefer being on land, yet frequent the water, did not, in experiments similar to the above, live more than three or four days. He discovered, also, that a slight modification in the experiments on the common frogs led to the like results. Thus, if submerged in a vessel of water of some depth so that they cannot rest on the bottom and breathe as they had done in small glasses, they sink after expelling the air from their lungs at the surface, to rise again after a while and go through the same process. This slight intermission of the usual respiratory effort proves fatal to them when the skin is not allowed to exert its ancillary office; and accordingly a great number of frogs thus situated died in the space of three or four days.

Of the influence of the atmosphere on transpiration.—By the term *transpiration* is of course understood that dissipation from a part of the body of exhaled vapour, or of a liquid transuding from the surface exposed to the air. We assign the name of *sweat*, as indicative of the fluid or vapour so condensed as to form drops. The contrasted effects of air at rest and air in motion, on this process, were very evident. Of frogs in equal number placed at an open window of a room, and in another window closed of the same room, the former lost at least double the quantity of fluid by transpiration given out by the latter. The amount was sometimes triple or quadruple, according to the movement of the air by wind. The process still went on, even when the air was kept in its state of greatest hygrometrical humidity: but in a dry air as could be obtained, the author found that from five to ten times as much more was transpired as in a moist atmosphere. Temperature did not exert such a powerfully modifying influence as might have been expected. The difference between 32 and 68 degrees

Fahr. was only as one to two, and between 32 and 104 degrees Fahr. as one to seven.

Of absorption and transpiration in water.—The effects on the batrachia, of exposure to air and immersion in water, are of an opposing character. The loss of weight in the first by transpiration is very promptly repaired in the second by absorption. This latter even goes on, before it attains the point of saturation, much farther than to balance the former. The animal still continuing in the water, does not, however, after having attained this point, remain of stationary weight. There ensues a true excretion of solid matters, the loss of which is at first supplied by the absorption of water; but after a time this is insufficient, without something more nutritive than the aqueous fluid be furnished to the animal. Temperature modifies these alternating, and to a certain extent opposing, processes. At the freezing point, absorption predominates greatly over the waste by excretion, whilst at 86 degrees Fahr. the loss of weight is too great to be repaired by this means.

The second part of the work is devoted to an investigation of the influence of physical agents on *fishes* and *reptiles*. The first chapter is on *tadpoles*. These, as our readers well know, are the young or the individuals in early life of the batrachia. Having both gills and lungs, they may be said to be strictly amphibious and to unite in themselves the functions both of reptiles and fishes. In virtue of their branchiæ, tadpoles can live longer under water of an elevated temperature, than the adult animal, such as frogs. They have remained vivacious and strong for a considerable period in water frequently renewed of a temperature of 77 degrees Fahr. Their metamorphosis is hastened by living in the air and by an increase of heat.

Dr Edwards found that by subjecting fish to various degrees of temperature of non-aerated water, precisely similar results were obtained as in the case of the batrachia. The duration of their life was longest at freezing point, and their death almost immediate by immersion in a heat of 104 degrees Fahr. In fish of the same species, volume constituted the only essential difference. The smallest and the youngest could least tolerate an increase of temperature.

In aerated water the effects of temperature were modified by the quantity of air in the fluid, though its specific effects were the same. Thus the duration of the life of fish will be extended by increasing the quantity of aerated water, though the temperature remain the same. A like result obtains if, the amount of water being the same, the temperature be lowered. An increase or diminution at the same time both of the temperature and quantity of aerated water makes no difference in the duration of the life of a fish. These experiments all presume that communication between the external air and the aerated water has been carefully interrupted. Where the fluid is in contact with the atmosphere, the conditions are not materially changed—elevated temperature is steadily unfavourable and even fatal to life. Though fishes are able to respire the air contained in water, and by this means live for a certain time, yet in order to the full and continued exercise of their functions, they must from time to time come to the surface and breathe directly the atmospheric air.

In a section entitled "*life of fishes in the air*," our author inquires into the causes of the speedy death of these animals after they are taken out of the water. He attributes this to the great transpiration of the fish and its consequent loss of weight when exposed to the open air—a loss most sensibly felt by the respiratory organs. Hence if a fish be left with the head and branchiæ immersed in water and the trunk exposed to the atmosphere, it will live many days and will be found to have been somewhat augmented in weight. The converse experiment produced no such effect. The fish with the body immersed in water and its head and gills in the air, died in nine hours and twenty minutes, though it was somewhat increased in weight by absorption. It would, therefore, seem that the gain of moisture by one part of the body will not compensate for its loss by transpiration from another part. The salutary influence of the atmospherical air on fish taken out of water is evidenced in a circumstance noticed by Dr Edwards. Some thus situated soon cease to move their opercula, though they continue to live a tolerably long time; but they die, after all, sooner than those which move to the last their opercula. The quiescence of the muscles of these last mentioned parts presents a mechanical obstruction to the access of air to the gills; and it was found that the unpleasant effects of this might be prevented for a certain period by keeping the opercula apart by means of a small stick or peg.

The third chapter of the second part contains the inferences from the author's experiments on lizards, serpents and tortoises,—in other words, on the *sauria*, *ophidia* and *chelonia*. The external envelope of all these animals receives, like that of the batrachia, the vivifying influence of the atmosphere. The pulmonary respiration alone is sufficient to maintain the life of some of them in summer, but not in others. Of the former we may instance serpents and tortoises—of the latter lizards. The reason is found in the different proportionate development of the lungs in these orders. The serpents and the tortoises, like the frogs and common toads among the batrachia, can live by pulmonary respiration alone; but lizards in summer die in a few hours if they are reduced to breathing by the lungs alone, and the vivifying action of the air on the skin be suppressed. In the same way that frogs and toads cannot live in solid envelopes under water, however aerated. So we discover that neither lizards, serpents nor tortoises can live in aerated running water, on account of the thickness of their envelope. The same laws of transpiration and effects of temperature prevail in the latter as in the former orders of animals. The greater thickness of their envelope causes lizards, serpents and tortoises to lose less by this process than the batrachia, and of course to survive longer the privation of aliment.

The third part of the work is devoted to a study of the operation of physical agents on warm blooded animals. The first chapter is "*on the heat of young animals.*" Dr Edwards first decides the question respecting the alleged more elevated temperature of young than adult warm blooded animals. He found that there was no perceptible difference in this particular between puppies and the mother when the former were at the mammæ, but that if separated from her they underwent a notable decrease of heat, so as to be within a few degrees of the surrounding atmosphere. This change takes place in the space of three or four hours, however vigorous the puppy may be, or great the quantity of food previously taken. The like phenomenon is observable in kittens and new born rabbits: nor will the difference of the external envelope explain it; for although the rabbit be born with a skin nearly naked, puppies and kittens have at this time a good covering of hair. An artificial envelope, though it retarded, did not prevent the diminution of temperature. The change only ceases to be evident after the fifteenth day from the birth of these animals. Others however of the mammifera, such as the young Guinea pig, do not exhibit these mutations. Hence we have two groupes or families in reference to animal heat. The individuals of one are born as it were cold blooded animals, being like these liable to vary with the medium in which they are placed; the others are truly warm blooded animals. The external or physiognomical character seeming to indicate the difference between the divisions is the state of the eyes, some being born with them closed, others open. It is precisely at the time when the former begin to use their eyes that the equilibrium of animal heat is established in them as in the adult.

In experimenting on young birds, the author discovered that they also, when separated from each other and removed from the nest of the mother, underwent a great decrement of caloric. Thus, for example, when he took young sparrows of the temperature of 95 to 97 degrees Fahr. which is below that of the old birds, and exposed them separately for some time to the air at 63 degrees Fahr. they became rapidly colder, and were reduced in the course of an hour from 97 to 66 degrees Fahr. or nearly the temperature of the atmosphere. Similar results followed the exposure of young sparrows to the open air at 73 degrees Fahr. their heat was soon reduced to within two degrees of this latter. To shew that the want of plumage or cutaneous covering had no share in this phenomenon, Dr Edwards took an adult sparrow and cut its feathers close to its body, and exposed it at the same time with young ones partially plumed to air of the temperature of 64½ degrees Fahr. The former preserved unchanged its customary heat of 36 degrees Fahr. above that of the atmospherical medium—the latter lost their heat rapidly so as to be at last only two or three degrees above the same medium.

The young of some of the orders of birds possess and retain, like certain of the young of the mammifera, an elevated temperature. They are at birth, that is from the time they escape from the shell, able to run about and take nutriment: and yet they have no thick plumage, their covering is merely a kind of down. If then with the author we take a retrospective view of all the experiments on warm blooded animals, we arrive at the conclusion, "that their faculty of producing heat is at its minimum at the epoch of their birth, and that it increases successively on to adult age."

In the following chapter, "*on the heat of adult animals*," we learn that the hybernating ones produce habitually less heat than the the other mammifera; they are like the varieties of the cold blooded class readily influenced by the state of the atmosphere, and like them are gradually brought down to the level of the external cold, at which time they become torpid and lethargic. This condition may be induced at any season by keeping them in a very cold medium. M. De Saissy succeeded in torpifying a mountain rat in the months of May and June. He had enclosed it with a little straw in a small copper box, the lid of which had a very small hole. After leaving it in an ice house for twenty-four hours, he exposed it to cold of fourteen degrees Fahr. The little animal was profoundly lethargic in eleven hours afterwards, and the temperature of its body had fallen during the experiment from ninety-five degrees Fahr. to forty-one degrees Fahr. Exposed subsequently to the atmospheric heat it revived and regained its former activity. The facility with which hybernating animals are cooled down to a low temperature was displayed in some experiments by Dr Edwards. He placed a bat, the heat of the body of which was at ninety three degrees Fahr. and that of the air sixty-one degrees Fahr., in an earthen vessel surrounded by ice and salt. A cover was so contrived as to keep up a communication between it and the outer air. Having remained in this vessel in an air of thirty-four degrees Fahr. for an hour, the temperature of the bat was reduced to fifty-seven degrees. Guinea pigs and grown birds placed in similar circumstances of a cold medium were only reduced in heat by three to five degrees. Hence we are justified in believing that the chief and characteristic peculiarity of hybernating animals consists in their not having the function of calorification as active as the other warm blooded animals.

In the third chapter "*on the influence of the seasons on the production of heat*," Dr Edwards lays down the position that no inference of any moment can be drawn from an observation of the habitual temperature of the bodies of animals. He discovered, by means of suitably performed experiments, that their inherent power of generating heat is greater in winter than in summer. In the former season, birds, such as sparrows, when exposed to air at the freezing point, undergo very little change of their animal heat: whereas in the latter, similar exposure of birds of the same species was attended with a diminution of their temperature by five degrees.

In the fourth chapter, "*on asphyxia*," we have some interesting views respecting the proportion between the habitual temperature of the animal and its endurance of submersion in water. Puppies, kittens and new born rabbits, with, as before observed, very feeble powers of generating heat, survived a half hour's immersion. But young Guinea pigs, the temperature of which is so great from their birth, did not live more than seven minutes under water. Similar differences were discovered between young and adult birds.

The author next investigated the effects of the external temperature from freezing point, to 104 degrees Fahr. Kittens, one or two days old, were plunged in water at 32 degrees Fahr.: they ceased to exhibit any signs of life after, on an average of nine experiments, four minutes thirty-three seconds. In water at 50 degrees Fahr. they died in ten minutes twenty-three seconds. In the same fluid at 68 degrees Fahr. they survived thirty-eight minutes and forty-five seconds. At 86 degrees Fahr. a different proportion obtained, the duration of which was less—the animals lived but twenty-nine minutes. At 104 degrees Fahr. they died in ten minutes twenty-seven seconds. Water of 68 degrees Fahr. seems to be that in which submersion is best borne.

Chapter fifth contains an account of various experiments performed to elucidate the phenomena of "*respiration in youth and in adult age.*" After some observations on the necessity of pulmonary respiration to all warm blooded animals, the difference in its energy and the chemical changes which it brings about in the air introduced into the lungs, the author exhibits the differences in this function dependent on age. In experimenting on birds, he found that the young ones lived much longer than the adult in the same quantity of air. Similar inferences were drawn in regard to the mammifera. Hence the energy of respiration corresponds with that of calorification—both being greater in warm than in cold blooded animals and in the adult than in the young. This connexion is still further evinced by the experiments recorded in chapter sixth, "*on the influence of the seasons over respiration.*" It was found that birds, for example, uniformly consumed oxygen with more rapidity in winter than in summer. They cease to breathe in a given quantity of air sooner in the former than the latter season—whether the carbonic acid was allowed to remain in proportion as it was formed, or was absorbed by caustic potash. In both cases the temperature of the air was nearly the same.

In the seventh chapter, "*on transpiration,*" the author shews that transpiration goes on gradually decreasing in the mammifera and in birds after two or three hours, when they are exposed to air of a medium temperature, and kept without any nutriment during the period of the experiment. This process is much more active in a dry than a humid atmosphere, and in a current of air than when it is calm.

The fourth part of the work is devoted to an examination of the relations which man and the vertebral animals have with physical agents. Chapter first is on "*the modifications of heat in man from birth to adult age.*" The same laws govern here as in the classes of animals already spoken of. The medium heat of twenty adult persons was 97 degrees Fahr.: the medium heat of ten healthy infants, varying from one to two days in age, was 95 degrees Fahr. This difference would hardly justify any general inference, were it not in perfect accord with the results of the experiments made on the young of the mammifera. In an infant born before its time or at seven months, the temperature was 89½ degrees Fahr. a fact corroborative of the accuracy of the principles already laid down.

The second chapter is headed, "*on the influence of cold on the mortality at different ages.*" Young birds, kittens, puppies lose their own heat and die by exposure to an atmosphere of reduced temperature, or even to one which is about equivalent to the mean heat of the year. But the young of animals will survive a temporary exposure to cold which would kill the adult ones, with the understanding that both have been removed from the cold to a warmer medium. This leads us to the next chapter on the "*temporary application of cold,*" in which we are told that animals chilled and warmed at different times, though they recover their first temperature, yet they are longer in doing so:—in other words, the faculty in them of evolving caloric, of course the power of resisting fresh cold, is diminished. A young man who, during a severe winter when the river Seine was frozen, wished to cross, broke through the ice and fell into the water. He extricated himself from his dangerous situation and escaped without his health suffering; but for three days afterwards he was tormented with an unremitted sensation of cold.

The counterpart of all this holds in regard to heat. The application of a high degree of heat favours its subsequent evolution in the body thus exposed. Hence the best means of supporting great cold is to be previously subjected to high heat—a theory this, the practice of which is exemplified in the inhabitants of the north of Europe, who rush out from their hot and vapour baths and roll themselves in the snow. We can understand on the same grounds, how the troops from Italy and the south of France suffered less by cold in the Russian campaign, than those from Belgium and northern Germany.

"*The influence of the seasons on the production of heat*" is discussed in the next chapter. The leading position laid down by the author is, that with the gradual diminution of the external or atmospherical temperature man and most of the warm blooded animals acquire an increased energy of evolving caloric in their bodies. This power attains its maximum in winter and declines with the increase and duration of the external heat. The temperature of the body may then be regarded as depending on the heat produced on it and that communicated from without. There may be varieties in these without the heat of the body being altered. A gradual succession of seasons seems necessary to enable the animal economy to accommodate itself to the external temperature. If, for example, a sudden degree of cold come on in summer, we are taken as it were unawares, since our power of evolving caloric is then at its minimum. In this respect we differ in summer from ourselves in winter, in the same manner, though in less degree, that the young of warm blooded animals differ from the adult ones.

In the sixth chapter, "*on asphyxia*," we have an account of the external phenomena in animals submerged in water and the length of time they can remain in this state without an entire extinction of life. A division has already been made of the young of the mammifera in reference to their powers of endurance when thus circumstanced. This is into, 1. those which produce so little heat that they cannot be said to have a peculiar temperature; 2. those which evolve enough to preserve an elevated temperature when the air is not too cold. The first live much the longest time in a state of asphyxia produced by submersion. The evidences of persisting vitality are of a two-fold nature—voluntary movements and involuntary ones. Thus puppies, kittens, young rabbits, &c. cease to exhibit voluntary movements and seem to lose all sense after three or four minutes, though they survive submersion for half an hour. Among the involuntary movements an external one is observable, viz. the half opening of the mouth or gasping at intervals of one or two minutes. Some puppies have exhibited signs of life after undergoing submersion of fifty-four minutes. If these animals be left in the water until they cease to exhibit any movement either of themselves or by pinching them, they cannot be restored on exposure to the air. Dr EDWARDS has often made inquiries of the best divers at the schools of natation in Paris, how long they could remain under water: and he was informed that the extent of time was three minutes.

The influence of heat, whether internal or inherent, and external or adventitious, is sensibly felt in asphyxia. The cold blooded animals, such as the batrachia, immersed in water of 104 degrees Fahr. are in precisely the same state as regards their speedy death with warm blooded animals similarly placed or submerged in water of a common or low temperature. But if we take that variety of the warm blooded class called hybernating, we have the same conditions for protracted life in them, deprived of air, as in the reptiles, viz. 1. a great reduction of their temperature; 2. ability to live long in this state exposed to cold air. Let these same animals, bats for instance, be plunged in water at 68 degrees Fahr. in the summer season, and they die in four or five minutes. Torpid and lethargic during the winter, they would under similar exposure retain life for a great length of time. To shew how completely animals in a state of hybernation bear the deprivation of air, we need but refer to an experiment of SPALLANZANI. This celebrated naturalist placed a mountain rat completely torpid in a receiver at the temperature of 54 degrees Fahr. containing carbonic acid. It gave no signs of uneasiness during the whole experiment which was protracted for four hours.

Dr EDWARDS next proposes the question whether in warm blooded animals deprived of the access of air and of course prevented from forming arterial or red blood, the venous or dark blood contributes to the support of life. The affirmative was shewn to be the case in reptiles. It holds also in respect to the young of the animals just mentioned. Kittens with their hearts excised and submerged in water lived but a quarter of an hour, others with their organs entire and plunged into water of the same temperature gave signs of life for about half an hour. Apparent death or suspended animation follows so soon, in adult warm blooded animals, their privation of air, that it is difficult to appreciate the influence of venous blood on their organs.

The direct operation of temperature on the nervous system of animals is exhibited in experiments performed on frogs and kittens. Of the first with their hearts excised—four in water of sixty-eight deg. Fahr. lived on an average one hour three minutes, and four in the same fluid at freezing point lived eight hours fifty-five minutes. Of three kittens with their hearts excised which were plunged respectively in water at sixty-eight deg., hundred and four deg., and thirty-two deg. Fahr. the first lived thirteen minutes thirty seconds, the second seven minutes and the third five minutes. As these animals lived entirely by the nervous system in these circumstances, we are taught the direct influence of temperature over this system.

"*Of the modifications in respiration depending on species, age,*" *&c.* Such is the heading of the seventh chapter, in which, after pointing out the difference in the time during which a frog and a bird can live in the same quantity of air, the author admits in part the common explanation of the greater surface of the lungs and the frequency and extent of the respiratory movements and the quantity of blood passing through the lungs of a bird whereby it exhausts in an hour oxygen enough to support a frog for three or four days. But he insists also on other still more important peculiarities in the blood itself. That of frogs is more watery and consists of larger globules than the blood of birds—the former requires in consequence less oxygen. Hence a division of vertebral animals into those of warm and those of cold blooded,—the first including the mammifera and birds, the second reptiles and fishes,—connected with another very important distinction; viz. the activity of their respiration. To this classification Dr Edwards has added a third series of animals, warm blooded when in the energetic enjoyment of their functions, but approaching to the cold blooded in infancy or during the predominance of particular physical agents. He has shewn that the mammifera which are born with their eyes closed, and birds hatched without feathers, and also the hybernating animals, are, as far as regards the evolution of caloric, of this nature. In the early period of the existence of such animals and in the torpid state of the hybernating ones—less air is consumed by respiration. It has also been shewn that the individuals of different tribes, which in consequence of the diminution of the external temperature acquire the faculty of evolving more caloric, do also consume more air.

In chapter eighth is considered "*the combined action of air and temperature.*" In the first part of the work it was shewn that individuals of the batrachia tribe could live for a length of time under water, deprived of course of pulmonary respiration and sustained entirely by the action of the air in the liquid on the skin. But this process could only be performed on condition that the water was of reduced temperature, as between freezing point and fifty deg. Fahr. If the medium was of increased heat the greater number of the submerged animals would perish; unless they were allowed access to the air and the use of their pulmonic apparatus. These experiments are in perfect accordance with what takes place when these animals, especially frogs, are left to their natural course of actions. Thus in autumn and winter and in the beginning of spring they can live almost entirely under the water of marshes, ponds and small rivers, their natural residences, which during all this time are hardly ever up to fifty deg. Fahr. In proportion however to the augmentation of temperature is the necessity for them to come frequently to the surface to breathe, and during hot weather they can scarcely live without continued pulmonary respiration. Nor is this to be kept up compatibly with even temporary delay in the water. They are obliged to go on land in order to place to the greatest account their cutaneous respiration, which is more active in the atmosphere than in the small quantity of air contained in the water. During a hot summer if they cannot leave the water they die. The same series of phenomena is found to take place in fishes similarly circumstanced.

Warm blooded animals are on the same line in this respect, as proved among other facts by an experiment of LE GALLOIS. A section of the eighth pair of nerves produces such a degree of occlusion of the glottis in puppies a day or two old that very little air can enter into the lungs—so little that the animal dies as soon as if it were entirely deprived of it. But let it be benumbed by cold, and in place of dying as before in half an hour it will survive the section of the nerves for a whole day.

The application and proof of this principle is found in the adult age and in man. Suppose a person asphyxied by carbonic acid gas—the pulsations at the wrist are no longer perceptible; respiration has ceased, yet the beat is greater than usual. Still the heart continues to beat and the air exerts its vivifying action on the skin with which it is in contact, and also with the lungs although they be quiescent. The course to be pursued under such circumstances is to divest the person of his clothing, in order to give the air freer access to his skin, and to expose him to the cold even in winter and throw cold water on his face. In sudden syncope, when the pulse is feeble or imperceptible, and respiration and voluntary motion are suspended, the most ignorant will have recourse to exposure to the air, ventilation and refrigeration with water. So likewise in the suffocation of a paroxysm of asthma, the patient opens the window even in midwinter, breathes a glacial air and is relieved.

In speaking of the "*effects of temperature on the respiratory and circulatory movements*," the author adverts to the well known effects of heat in accelerating respiration and circulation, and points out the causes of this state. As may be inferred from what has been already said, the operation of heat on the animal economy is modified and restrained by extending the relation between the lungs and the atmosphere—hence the accelerated breathing in order to introduce more air than usual into the pulmonary vesicles. The effects of cold are not so distinctly appreciable. Gradually applied to reptiles, it diminishes the frequency of the respiratory movements, and may, if not carried too far, gradually suspend them without extinguishing life. During this time their animal heat follows the diminution of the atmospherical temperature, and the minor activity of respiration. In hybernating animals of the class of the mammifera, we witness the same series of phenomena; but if the cold be very intense they cannot live in their torpid state; their respiration in place of being nearly quiescent must be accelerated, in order to enable them to resist this now deleterious agent. The young of those animals, such as of birds hatched without feathers, and of the mammifera born with their eyes closed, which are unable to preserve an equable temperature in the open air, exhibit under the influence of extreme cold accelerated and ampler respiration. In adult warm blooded animals not subject to hybernation, the application of cold, or chilling them, always caused hurried breathing until the strength was exhausted. We infer from all this that the most important modifications of function in the two classes of birds and mammifera, in the progress of age from birth to the adult state, consist in the production of heat and extent of respiratory movements. With the development of these two functions is diminished the influence of the external temperature. Hence we are taught that when the constitution of an individual is changed, so that there is diminished production of heat and consumption of air, he can no longer tolerate the same degree of cold as before. And hence also the necessity, when these functions are deteriorated, as in organic alterations of the heart and lungs, of placing him in a milder temperature, produced either by artificial means or obtained by change of climate.

The direct experiments elucidating these principles are given in the next chapter, under the head of "*the influence of the respi-*

ratory movements on the production of heat." M. De Saissy took a bat in a completely torpid state, and with a temperature of 39 degrees Fahr. the air of a room being 34½ degrees Fahr. and irritated the animal by mechanical means. It was an hour in being roused. Thirty minutes afterwards its body was at 59 degrees Fahr. and in another half hour at 80½ degrees Fahr. A hedge hog, torpid in the same place, was only at 37½ degrees Fahr.; but after a lapse of two hours, and excitation similar to that practised above, it was roused from its lethargy with a temperature of 54½ degrees Fahr. In an hour afterwards it was 86 degrees Fahr. at which point it remained stationary. A mountain rat in the same circumstances was stimulated in a similar manner. In the course of an hour its animal heat was at 77 degrees Fahr. and after an equal lapse of time it had attained to 97 degrees Fahr. its natural temperature. The operation of the external cold is shewn in the following experiments. At the same time and in the same place, in which he executed the preceding ones, he placed in a window with a northern exposure, and to a temperature of 25 degrees Fahr. a hedge hog and a mountain rat, each being at 39 degrees Fahr. Their respiratory movements were very feeble. The second of these animals awoke sooner than in the former experiment, and ran promptly to its cage. After the first hour of its exposure to the cold its temperature was raised to 77 degrees Fahr. and after the expiration of the second to 97 degrees Fahr. The hedge hog awoke two hours and a half from the beginning of the experiment—its animal heat was then only raised to 54 degrees, and at the end of five hours it was 82½ degrees Fahr.

In many instances Dr Edwards is induced to believe that accelerated respiration beyond the healthy measure is a salutary reaction for the purpose of increasing the heat of the body and enabling it to resist the action of the cold. The author would lead us to believe in the literal fulfilment of the language of the fable, or blowing hot or cold in the same breath. In another part of his work he shewed us how the deleterious operation of heat is mitigated or prevented by increased activity of the respiratory apparatus. We believe that he mistakes coincidences or co-existing phenomena for cause and effect, a besetting sin in all our reasoning, whether physiological or philosophical. Thus he tells us that young birds, taken from their nests and exposed to the air of a room which was sixty-four and a half degrees Fahr., lost five degrees of their heat; and yet their respiration was accelerated to the extent of one hundred and twenty breathings in a minute, which lasted for twenty minutes.

In the eleventh chapter, "*on transpiration*," Dr **Edwards** begins by laying down the position that this process is gradually decreasing after the lapse of a certain number of hours, and that in man this period will embrace about six hours, from six in the morning until noon. The losses by transpiration are he thinks progressively less after this last epoch on through the twenty-four hours. The author notices the discrepances between **Sanctorius**, and **Keill** and **Dodart**, respecting the effect of a meal on insensible perspiration; he does not agree with the former in supposing it entirely checked for three hours after a meal. In reference to the influence of sleep on the function, he is of opinion that the action of the skin is often greater, as we see in children during this state. The effects of the hygrometrical condition of the atmosphere correspond with those already detailed on reptiles and fishes. A dry air, notwithstanding the evaporating and consequently refrigerating power, increases transpiration; an agitated air has the same effect, so has also a rarified atmosphere. We do not clearly comprehend the section in this chapter in which the author endeavours to draw the distinction between transpiration by evaporation and that by transudation. He is not we think on this occasion very happy in his selection of terms nor in his explanation of them. By the former he means a process which goes on in the dead body as well as the living in virtue of the porosity of organized substances by which fluids near the surfaces in contact with the air are converted into vapour. By transudation he wishes us to understand a secretion from the skin or open surface usually, though not necessarily, palpably, fluid: of course it is the product of vitality.

In comparing *cutaneous with pulmonary transpiration*, he indicates as one point of difference the loss of fluid from the lungs, being entirely by evaporation; there is properly speaking no pulmonary transudation. Hence the transpiration from these organs is much more regular and uniform than that from the skin, though in less quantity, being according to **Lavoisier** and **Seguin** a third of the entire amount of transpiration from both surfaces.

Dr **Edwards**, in opposition to the opinion of **Seguin**, is disposed, as well from experiments on animals as from observations on man, to admit cutaneous absorption in water to an extent equivalent to the loss by transpiration in the same medium. He asserts likewise that absorption takes place in a humid air, and that the actual loss of weight in such a medium is the difference between the loss by transpiration and the gain by absorption, the former process prevailing over the latter.

In the fourteenth chapter, "*on temperature*," we are presented with an account of the various experiments made to determine the degree of heat which can be borne by men and animals. On this subject reference is naturally made to the names of **Tillet**, **Duhamel**, **Fordyce**, **Banks**, **Blagden**, **Solander**, **Dobson**, **Delaroche**, and **Berger**. The two last mentioned gentlemen exposed several vertebral animals, such as a cat, a rabbit, a pigeon, a yellow hammer and a large frog, to the heat of a stove, ranging from one hundred and seven degrees to one hundred and thirteen degrees Fahr. during an hour and a half without their suffering much inconvenience. **Dobson** relates the instance of a young man exposed to a dry heat of two hundred and ten degrees Fahr. during twenty minutes; his pulse rose from seventy-five to one hundred and sixty-four beats in a minute. **Berger** supported a heat of two hundred and twenty nine degrees Fahr. for seven minutes, and **Blagden** of two hundred and forty to two hundred and sixty degrees Fahr. during eight minutes.

In moist heat, as a vapour bath, **Berger** was obliged after twelve and a half minutes to come out of one which had risen from one hundred and six degrees to one hundred and twenty eight degrees during his stay in it. He was weak, barely able to support himself and had vertigo.

In regard to water, we are told that **Lemounier** when at Barèges plunged into the warmest spring at one hundred and thirteen degrees Fahr. but could remain in it only eight minutes.

Increase of animal heat follows exposure to a very elevated temperature. **Berger** and **Delaroche** exposed animals to a heat varying from 122 to 200 degrees Fahr. and found that their bodies had gained from 11 to 12 degrees Fahr.

The influence of cold is much increased by air in motion. In one of **Parry**'s expeditions to the north west, it is related that the men could bear very readily a cold and calm air at zero, or thirty-two degrees below freezing point. Whenever the wind rose, no matter from what quarter, there was an elevation of temperature; but the cold was then felt much more sensibly, as for instance in a breeze, when the mercury was at 20 degrees Fahr. above zero. Dr **Fisher** gives a still stronger case. He tells us that they were not so much incommoded by a cold of 51 degrees Fahr. below zero, or 83 degrees below freezing point in calm weather, as they were by the air in motion or blowing at zero.

The next chapter, "*on the influence of light*," contains an exposition of facts, going to shew the favourable operation of this agent on the development of animals by hastening their metamorphoses and their growth. We do not feel inclined to lay much stress on the facts cited from **Humboldt**, which Dr **Edwards** introduces to corroborate his argument. Fulness of form, and regularity and rotundity of outline in naked savages can be explained as readily by the circumstance of their having no ligatures or bandages of clothing, and their being allowed the free use of their bodies and limbs, as by any direct agency of light.

In treating of "*the alterations in the air by respiration*," the author first shews, by comparative experiments on different animals, that the proportion between the oxygen which disappears and the carbonic acid produced varies very much according to the species, age and individual peculiarity of the animal.

The proportion of azote in the expired and inspired air varies according to Dr **Edwards** with the season. In summer the expired air contained an excess of azote over the inspired. In winter the reverse was the case; there seemed to be an evident absorption of this gas. But still farther, he shews that both its exhalation and absorption are constantly going on, and that the predominance of one of these functions over the other accounts for the differences just mentioned. Azote is given out when the animal breathes oxygen and hydrogen gases alone.

The formation of carbonic acid in the lungs is proved by numerous experiments in the work before us to depend on a true exhalation or secretion from their lining surface. Dr **Edwards** found that it is exhaled by the mammifera, reptiles, fishes, and the mollusca—individuals of all of which classes were made to breathe hydrogen gas alone for a length of time. This now generally received fact is in accordance with all that we know of sound physiology, and will, we hope, serve to arrest the speculations of chemists on this subject. But still farther, on the authority of **Spallanzani** and of Dr **Edwards**, we learn, that the quantity of carbonic acid exhaled by animals breathing hydrogen gas alone is equal to that given out when they inhale atmospheric air. The four fundamental points in the functions of respiration are,

1. The absorption of oxygen gas which disappears:
2. The exhalation of carbonic acid by expiration:
3. The absorption of azote:
4. The exhalation of azote.

The absorbed oxygen may in part contribute to the formation of carbonic acid in the blood: but since in many instances animals have breathed hydrogen gas alone for a length of time, and given out carbonic acid freely by pulmonary exhalation, we must look to other sources of this acid. Of these the digestive canal may be indicated alone. The experiments and observations of JURINE, CHEVREUL, MAGENDIE and others prove that the carbonic acid exists throughout the entire extent of the alimentary canal, is formed during digestion, and to a certain amount is absorbed. Dr DESPORTES has related cases in which symptoms of asphyxia were induced by this cause.

The last or seventeenth chapter of the work contains the "*applications*" of the preceding experiments and observations.

The varieties in the power of evolving caloric and the two principal examples of the operation of cold are presented by the author. The first is in the class of hybernating animals, in which with diminished heat there is a gradual torpor of all the functions. The second is in the warm blooded animals, which are not prone to this periodical lethargy, but on which cold acts by accelerating the movements of respiration and circulation. We cannot refer the torpidity of the first to the mere diminution of the external temperature. Sleep reduces their animal heat at the same time that their respiration is less active and they become in a measure torpid. A consequence deduced from this fact is that the same exposure to cold which in the waking state of man would have no unpleasant effects will be decidedly injurious when he is asleep.

Both dry and moist air tend when applied to a living body to produce cold; the former by evaporation,the latter by a special property of diminishing the evolution of caloric. Dr EDWARDS inclines to the opinion that to this operation of this latter agent we ought to look for the cause of certain intermittent fevers, which occur under circumstances and exposures forbidding the most remote idea of the presence of marsh miasmata. This is an opinion long ago entertained by GIANNINI of Milan, and to which on a former occasion and in another Journal* we directed the attention of our medical brethren; with the adduction on our part of evidences from other writers on paludal fevers.

The phenomena attending acclimatation consist, as regards the inhabitants of hot countries going to colder ones, in their gaining a greater proportionate power of evolving caloric, and in reference to individuals from cold climates becoming residents of hot ones, in their losing after a time a portion of their faculty of creating heat. The inconveniences, sufferings and diseases in either case will depend on the tardiness with which the power of evolving caloric is increased in the former and diminished in the latter case. A like difference is found to prevail in winter and summer—the animal heat evolved and evident being much greater in the first; nor does its existence in minor degree in the second depend as is commonly believed on evaporation.

The author here discusses a point which he passed over in the body of the work. It is whether there be a real and perceptible variation of the temperature of man and animals according to the seasons. He found an evident difference in this respect in sparrows,—which in February were one hundred and five deg. and in July one hundred and ten deg. Fahr. Mr JOHN DAVY observed that the residents of the island of Ceylon, whether natives or strangers, had a greater heat than the usual mean by one or two degrees.

The increase of heat in the body during disease is often very considerable. Dr PREVOST of Geneva mentions an augmentation of more than twelve deg. in a boy affected with tetanus.

The operation of humid cold points out the efficacy of cold bathing in diminishing the morbid evolution of caloric, or of aspersion or ventilation with the same view.

A rarefied and dry atmosphere, while it diminishes heat by evaporation, will also produce other phenomena of a painful, if not dangerous nature—as when persons ascend to the top of very high mountains. Their hurried respiration and general languor and distress are removed by moisture, even though the atmosphere be rarefied as before. A troublesome affection in these cases is vomiting, which Dr EDWARDS conceives to be an effect of the diminished relations between the external air and the animal economy. He produced vomiting in birds by keeping them some time in a highly rarefied air.

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* Dr CHAPMAN's Philadelphia Medical and Physical Journal, Vol. VII. pp. 142—7.

The bad effects of rapid evaporation from the pulmonary surface are felt in the oppression of the chest in a hot stove room. The air in frosty weather contains but little watery vapour, while the heat of the stove by elevating the temperature of the mass of air augments its capacity of saturation by vapour—so that in equal temperatures the quantity of fluid dissipated by evaporation is greater in this situation than during summer. Popular practice gives a remedy for this inconvenience in a vessel of water placed on the stove; but it is unsufficient.

The extreme aridity of the skin and air passages in many acute diseases must be attended with very bad consequences distinct from the disease of which it may be one of the effects. A moist air inhaled, and moisture to the skin could not fail to be beneficial in such cases, and perhaps tend to diminish their mortality.

The pernicious effects of cold on young animals, and the known minor temperature of infants are pointed out by Dr Edwards as reasons for a rigid attention to the proper means of affording protection to children against a low temperature of which adults would hardly complain. The changes induced by exposure of young subjects to cold are slow and insidious.

The connexion between respiration and the evolution of caloric receives a practical application in the treatment of pneumonia. The danger here consists in the restricted relations between the individual and the external air, owing to the inability of the lungs to expand: and the most urgent indication is to place the system in such a state as shall enable it to tolerate this limited respiration. In whatever manner the blood contributes to the production of heat, we know of a certainty its agency in this respect. Of course, if we detract the pabulum of heat we diminish its evolution, and the body can do with less respiratory effort than when its temperature is much exalted. A small blood-letting is not sufficient for this purpose: but a large sanguineous evacuation cannot but diminish the faculty of producing heat; and will thereby bring the system to that state in which it has the least want of air. The relief obtained by the operation depends in part on another circumstance already adverted to. The more the blood abounds in globules and the smaller the quantity of water in it, the greater is the evolution of caloric and energy of respiration. Detract blood to a considerable extent and the proportionate quantity of the globules is lessened. Absorption does indeed soon supply the loss of blood as far as regards the mere fluid, but it does not convey the globules into the vessels: it carries water and whatever other substances it may hold in solution. Reduced diet, by giving a supply disproportionate to the consumption of the globules, will have, but in less degree, the same effect with bleeding.

Here we conclude our analysis of the work of Dr EDWARDS. If we have been at all successful in our task, we need not praise the patient observations and faithful experiments and cautious inductions of this accurate and philosophical physiologist. He has done that for our profession which must to him be a source of higher gratification than all the prizes of the academy. He has given a large and valuable collection of data, from which we may draw the most useful deductions for physical education, the preservation of health and the treatment of disease.

There are near seventy pages of tables at the end of the work, exhibiting the numerical results of a great number of experiments alluded to in the progress of the inquiries which he instituted. The appendix, for which Dr EDWARDS acknowledges himself indebted to his friends M. PREVOST and M. DUMAS, contains a succinct account of our present knowledge of animal electricity and of the means of investigating this interesting subject.

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PROCEEDINGS OF THE MEDICAL SOCIETY.*

ARTICLE XVIII.—*Report of the Committee of the Philadelphia Medical Society appointed to collect facts in relation to the recent occurrence of Small Pox in this City.*

It having been currently reported that several members of the medical profession had lost their confidence in vaccination to such a degree, as to render them willing to recur to the practice of inoculation; and considering the highly important interests likely to be affected by such a rumour, the undersigned were appointed, on the 16th of February, a committee to collect facts in relation to the recent occurrence of small pox in this city, and report to the society. Accordingly, on the 18th of February last, they issued a printed circular addressed to several physicians of Philadelphia, of which they submit the following copy:—

Sir,

Having been appointed a Committee from the PHILADELPHIA MEDICAL SOCIETY to collect facts in relation to the recent occurrence of SMALL POX, we have taken the liberty to request of you an answer to the following queries:—

1. Have any cases of Genuine Small Pox, subsequent to Vaccination, come under your *personal* notice?
2. In such cases, what reasons have you for believing that Vaccination was properly performed?
3. How many cases of deaths from modified Small Pox have come under your *personal* notice, and what were the circumstances attending such deaths?

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* [We have unwillingly excluded from the present number two valuable articles forming our Medical Literature Department, in order to make room for the Report of the Medical Society on Variola and Vaccina—subjects possessing at this moment peculiar interest from the occurrence of the former as an epidemic, and from its occasionally attacking protected individuals.—ED.]

4. How many cases of Small Pox subsequent to previous inoculation or natural Small Pox have come under your *personal* notice?

5. In the last set of cases have any and how many deaths occurred?

6. Have any facts come under your *personal* notice, tending in any degree to weaken your confidence in the efficacy of Vaccination as a preservative against the *fatal effects* of Small pox?

An immediate reply to the above queries will confer a very great favour on

Yours respectfully,

EDWARD JENNER COXE,
D. FRANCIS CONDIE,
CH. D. MEIGS.

It will be seen, by reference to dates, that a very prompt and kind attention was paid to the above queries by a considerable number of medical practitioners, whose opinions are entitled to the respect and confidence of this community and the profession at large: among these, we might enumerate several gentlemen, who at an early period rendered the most signal services to the cause of vaccination, and who, in the progress of an enlarged experience and with a more mature judgment, have not lost any part of their confidence in its antivariolous efficacy.

Your committee will not refrain from an expression of thanks to the gentlemen who have so kindly, out of respect to the Medical Society, co-operated in this investigation; this promptitude on their part has been a source of heart felt satisfaction, not a little increased by the proofs contained in their letters of unanimity as to a great and beneficent doctrine, which, tending to avert one of the most deadly of human evils, deserves, like the doctrines of religion and liberty, the warm support and cordial acceptance of every enlightened citizen. This unanimity so consoling to the friends of vaccination could not have existed, had the doctrines of Jenner depended on unsubstantial hypotheses for their only basis and confirmation.

Although the history of vaccination is a history of its uniform and ascendant progress over all obstacles, whether of ignorance, prejudice or avarice, there have always been those, who, unwilling or unable to survey the whole subject, which ought to carry conviction to every judgment, have preferred to rely on their own limited experience of a few doubtful exceptions and reject the boon of Jenner, rather than yield assent to a mass of evidence such as has scarcely ever been accumulated in any other department of human investigation. The doubts, hesitancy and fears of such individuals ought not, and it is believed will not, prevent the extension and ultimate triumph of vaccination; when the variolous contagion, like the Jewish leprosy, shall cease to deform and destroy the race of man. The dogma of WILLIS, "Convenit enim homini omni, soli et semel, variolis aut morbillis affici," has already ceased to be true or accepted, however true it might have been anteriorly to the researches of JENNER.

Notwithstanding that the anxiety of the public mind and of a very few physicians, in relation to the prevailing varioloid affections, may appear to derive some grounds from the number of persons who subsequent to vaccination have sustained an attack, your committee find it difficult to conceive of the necessity for stronger evidence in favour of the vaccine than is already in the hands of the people. What corroboration in fact is necessary or possible, where it is admitted, on the experience of half a century, that millions of lives have been preserved; that variola has from some countries been wholly exterminated, and in most parts of the globe disarmed of its dangers and deformity; that thousands of individuals, protected by its means, have been inoculated, and with impunity exposed to the concentrated contagion of small pox; in fine, since the growing lights of experience and philosophy teach both reason and the senses that the doctrine of JENNER is incontrovertibly true?

But the public mind, in all the concerns of health, derives its impress, in a great measure, from that of the medical profession, and it is true, that some individuals in this city have freely expressed their doubts and apprehensions in relation to varioloid susceptibility. The ignorance of the public in relation to the laws of the vital actions is not a matter of astonishment or a subject of censure; and the alarm so naturally created by the occurrence of a severe varioloid eruption can only be allayed by the soothing and confident voice of the physician: but that the latter, also, should take the alarm, and concur in giving wings to rumour, is a circumstance most deeply to be regretted.

It is scarce necessary to state to the society, that this can only arise from imperfect or erroneous views of the power of certain causes to modify, and that permanently, the physical constitution of man.

The proposition to be solved in the premises is not, whether any cause can so change the *structure*, *irritability* and *sensibility* of the living tissues as to incapacitate them from suffering a second impression from a similar cause; for there is no physiologist who will deny the affirmative to be true. Mankind wish to know whether vaccina can so change the structure or properties of the tissues, as to render them unsusceptible of the impressions of variola. This is the question which agitates the public mind: *Shall we be safe from small pox if we are vaccinated?* The committee, willing to leave out of the question all the testimony of Europe, Asia, Africa, and the by gone experience of the whole United States, are prepared to answer, from the documents now on the table, yes:—these documents prove it incontestably. The Society will hear them in a subsequent part of this report.

Who doubts that measles, once suffered, incapacitates that individual, in all future time, from undergoing the same pathological state? And yet what practitioner, of a few years' standing, has not witnessed a second attack of rubeola? Is not the same thing true as regards parotitis, varicella, scarlatina, pertussis, &c.? Confessedly, these diseases have been known to attack a second, and even a third time, in numerous instances, ever since they first became the subjects of medical history, and this too, without invalidating the truth of, or preventing the public reliance on, the general rule, *that an attack is only sustained once by each individual.*

If this point be conceded, it may be used as an unanswerable argument against those who have so causelessly abandoned their faith in the guardian power of vaccination; for it shews that exceptions to the modifying power occur in all diseases.

The constitutions of men being not all alike, one individual may suffer severely with an undoubted rubeola or variola, without undergoing that perfect and exempting modification which, in another, is effected by a much slighter attack,—hence, we not very unfrequently find that individuals, (as in the patients noticed by Dr OTTO and Dr CONDIE) who are deeply pitted from the pustular suppurations of small pox, are attacked a second time, while those, on whom the arrows of pestilence left not a single trace, escape a second assault entirely, though frequently and openly exposed to the contagion. In this place, we may take occasion to say, that it is probable that greater malignity of the virus or miasma will be found to occasion a renewed attack in those partially protected constitutions which, under its ordinary ratio of intensity, would have remained wholly undisturbed. And such an hypothesis may be reasonably adduced in explanation of the more frequent occurrence of varioloid disease since the epidemic constitution first manifested itself in Scotland. Not only has it been proved that the human constitution is susceptible of such modification of textural or vital properties by the *contagious diseases*, it has been clearly shewn in Germany, that even *medicinal plants* are capable of withdrawing us from the influence of these contagions: thus, belladonna, which in certain doses produces a scarlet efflorescence or inflammation of the skin, is habitually resorted to by many practitioners in that country, to anticipate, as by a substituent and safe inoculation, the more dangerous or mortal assault of scarlatina; a practice by means of which many lives have already been rescued from a premature termination. This homœopathic practice is but a result of the original proposition of Dr JENNER.

JENNER's immortality is due to this, that he first invented and successfully practised the art of substituting a mild and safe *animal poison*, to effect that modification of the constitution which previously had only been produced by a harsh and often mortal one.

Your committee will not here use arguments to prove that vaccina is a substitute in this operation for small pox; or that it produces, without pain or hazard, an equal, if not superior, protective modification of the physical constitution. They leave this question to be again decided on a review of our correspondence, as it has already been for the millionth time in various parts of the globe.

Much of the hesitation and error at present prevailing among us has arisen from the circumstance, that the early friends of vaccination, like those of inoculation, believed and boasted too much: they boldly asserted that vaccination was a perfect safeguard in all cases; and that, too, in the face of numerous facts, demonstrably proving that the most violent course of small pox could not always withdraw the sufferer from the power of a second infection. It is not surprising that the enemies of vaccination should have seized upon the exceptions, to shew that, as a part of the doctrine was untrue, the whole might or must be so. Such is actually the state of things in this city; and it seems to us that if the public could be once completely enlightened as to the *real* degree of efficacy, these exceptions would weigh not a feather against the general tenor and amount of our success, absolute and perfect. Mr JAMES MOORE, author of the histories of vaccination and small pox, admits that he had been one of these assertors of indiscriminate success, and notices the ill effect of such mistakes, but he reformed, and corrected his error, as most enlightened persons have done beyond the Atlantic. The miserably lean and meagre state of the medical press in this country, which has given us no copy of those works and many others on the same subject, must be charged with the perpetuation of the error on this side of the ocean; else it would be incredible that so many years of experience and such reiterated announcements should have left any part of the profession in ignorance of their mistake. If the public had been told how far they could rely, they would never have been disappointed.

The varioloid epidemics have produced, it is said, a larger amount of exceptions than had been noticed previously to their occurrence in Scotland and England, where they appeared first about the year 1813, and where they excited the wonder and astonishment of the people, who had so long rested in a confident and undisturbed security under the guardianship of the vaccine.

Your committee are not disposed to deny, that since the year 1813 a far greater number of vaccinated persons have been attacked by a mild and modified small pox, than had antecedently to that year been affected by it; but this circumstance, which has occasioned such great consternation and fear, will, on a candid inquiry, be seen to redound greatly to the credit and promotion, instead of to the defeat and overthrow, of the JENNERIAN doctrine and practice.

This is undeniably true, as to the popular confidence in Europe; for it may be safely averred, that the varioloid epidemics, especially those of Norwich and Edinburgh, have confirmed and established its credit with the inhabitants, who, while they have beheld the unusual spectacle of a vaccinated individual affected with a mild and modified variola, frequently met with a severer form of the disease in those who had previously undergone the natural or inoculated small pox. Finding an invariable security neither from inoculation nor vaccination, they have learned to prefer the latter, as the most invariable and complete protection. The documents on the table teach us that the same results are to be expected from the exactly similar occurrences of the prevailing epidemic of this city.

While on this topic of exceptions, it may not be amiss to observe that there are many circumstances to be offered in explanation and excuse of this greatly augmented occurrence of modified small pox.

The history of the genuine disease is full of examples, shewing its greater violence, prevalence and mortality at one time, or during one epidemic constitution, than another. In some seasons it was a mild and safe disease, if compared with its deadly ravages and infectiousness in others. Possibly, the rare appearance of varioloid eruptions, previously to the outbreaking of the Scottish epidemic, may have depended on the mildness of the antecedent constitution; and it is conceived that this supposition derives support from the exceeding great mortality of small pox occurring in the unprotected since that period, and from the fact that secondary small pox, or that taking place in persons who had previously been variolated, is infinitely more common and obvious, within the last fifteen years, than it had been in any equal previous duration: so common has this occurrence become, that some have imagined a new and undescribed disease, or have regarded it as an epidemic varicella: but without seeking in these phenomena the evidences of a new and unheard of epidemic, we may more rationally refer them to an augmented intensity and malignancy of the variolous miasma. Moreover, has not the precious boon of JENNER lost, by our familiarity with it, some degree of that almost sacred respect with which its inestimable worth ought to inspire the minds of physicians, who are its sole depositories? Did not a long impunity and uninterrupted enjoyment render us forgetful of the precepts of this momentous subject? Hundreds of persons have been vaccinated by those who were totally unqualified to judge of the genuine or faulty character of vaccina. Is there not a common disregard to the state of the skin and the other requisite provisions for its successful application? Do not three or four careless inspections of the vesicle commonly suffice for all attention and cautiousness; and as to the records of cases, what are they more than a loose charge in the day book, or a treacherous reminiscence of a long forgotten and common event?

In addition to the above, we may cite the present condition of the vaccine virus in this country, every specimen of which is probably derived in line direct from original samples sent from Europe a quarter of a century ago. It is a very common and loud complaint that we do not communicate vaccine so readily and certainly as we could some years since; and one of our respected correspondents, RICHARD HARLAN, M.D. suggests that this may be owing to a deterioration of the lymph. He recommends that it should be regenerated by resorting again to its original source.

Having already hinted at the sentiment which has found some degree of currency, viz. that the existing epidemic owes its rise to a poison different from genuine variola, we will, without entering into a discussion of the subject, remark that, from the documents before us, we remain convinced,

1. That the disease, when affecting persons not previously variolated or vaccinated, is the genuine small pox of authors:

2. That in those who have previously had variola or vaccina, it is small pox modified more or less, by the state of the constitution :

3. That modified small pox, or varioloid, as it is commonly termed, may, as to symptoms, approximate indefinitely near to the clearly defined characters of genuine variola.

With regard to the average number of absolute exemptions from variolous influence obtained by the ordinary practice of vaccination, your committee cannot offer any positive information, for want of official documents. In France, more than two and a half millions of persons remained completely exempt during a lapse of thirteen years. And in this city, small pox found not a single victim in the years 1812, 13, 14, 15, 20, 21 and 22*.

Our present population amounts to about 140,000 souls ; and we infer, from the most careful inquiry we have been able to make, that 80,000 of these depend solely on vaccina for their protection against small pox. One hundred persons died here with variola in the year 1827 ; and although the mortality bills contain no reports under the head of varioloid or modified small pox ; our documents shew that ten persons are said to have died with variolous disease subsequent to vaccination, and that nine persons perished in the same way after previous small pox. We will examine the pretensions of these cases in another place.

Drs Mitchell and Bell, in their valuable communication on the epidemic of 1823-4, state that of 248 cases of the disease natural and modified, that came under their notice, 92 proved fatal; to wit, unprotected 85—previous small pox 6—vaccinated 1. This table alone contains convincing proof of the efficacy of vaccination.

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* Dr Luder of Altona states that of 234,959 persons subjected to vaccination in Holstein, from the years 1801 to 1822, only two individuals had been affected with small pox, so late as the year 1824; while in the same period of time, only one person had been attacked by modified small pox, out of 447,605 who were vaccinated in the kingdom of Denmark.

C. Comegys, Esq. President of the Board of Health, obligingly transmitted to us a table (furnished by Mr Jos. Pryor, clerk to the Board) of the cases of disease reported to the Board since their proclamation in April last.

From the 1st April to 31st December 1827,	
Small pox, ...	181
Modified small pox, . . .	4
Variola, ...	6
From 1st January 1828 to 19th February,	
Small pox, ...	48
	239
From 1st April to 31st December 1827,	
Varioloid, ...	124
From 1st January to 19th February 1828,	
Do.	49
	173

The respective numbers are 177 and 235.

From the clerk's letter it will be seen, as above, that in obedience to the requisitions of the proclamation, there have been reported, from the 1st of April 1827 to the 19th of February 1828, 412 cases of disease, under the several denominations of *small pox*, *modified small pox*, *variola* and *varioloid*: but, inasmuch as many practitioners have not reported their modified cases at all, and many persons have had it so lightly as to require no medical prescription, we are led to believe that about 1000 cases of the disease have occurred both under its genuine, and mitigated aspect. Supposing then that 235 cases of genuine variola had occurred up to the 19th of last month, we have a balance of 765 cases, to place under the heads of small pox subsequent to variola, and small pox subsequent to vaccina. The committee will not attempt an estimate of the numbers appropriate to the two last divisions. They only suggest, that at least 80,000 vaccinated persons inhabit this city. The ratio of the unprotected and variolated is not to be found.

We will now proceed to lay before the society an abstract of the several letters received in answer to our printed circular, viewing this as the means of communicating the liveliest idea of the actual state of professional sentiment here. In making this abstract many highly interesting details must of necessity be omitted, but it is conceived they will not be lost if securely placed in the archives.

Dr ATLEE, SEN. reports no case of genuine small pox after successful vaccination; nor death from modified small pox: but has witnessed one fatal case in an individual who had previously had inoculated small pox.

Dr ATLEE, JR has seen only one case of genuine small pox in a vaccinated subject. In this case the vaccination had been performed by a "highly distinguished practitioner now deceased," who was satisfied with the vaccine phenomena; but it is worthy of remark that Dr ATLEE found only a *dull white mark* instead of the cicatrix and foveolæ. Has witnessed no death from modified small pox, nor a case of genuine variola after variola: but, "I have seen severe cases of varioloid, after the contagion had been received in either way. None of these were fatal." Lastly, "My own personal observation," says Dr ATLEE, "has in no degree tended to weaken my confidence in vaccination, having tested its efficacy by exposing my own children, and some of my patients, to small pox of a fatal character with perfect impunity."

Dr W. D. BRINCKLE, physician to the Small Pox Hospital. "Believing that the lightest case of what has been termed varioloid will produce small pox in the unprotected, I must regard them as the same disease." Premising this explanation, Dr B. informs us, that he has had under his personal notice 38 cases of small pox subsequent to vaccination—some very violent and some exceedingly mild. What proportion of these would by other physicians have been called genuine small pox, he is unable to say. Dr B. remarks, that it would be difficult for him to determine whether vaccination had been *properly* performed in these cases. His information, shewing that they had been vaccinated, was drawn from the patients, their friends, the cicatrix, and in one instance the vaccinator, a gentleman to be relied on: where the cicatrix was wanting, the case was not considered as a vaccinated one.

Dr B. states, that he has known no death from modified small pox, and believes no such death has occurred; but has lost four patients with small pox, taken after vaccination, viz. 1. Lewis Jackson (coloured), who was vaccinated in Boston ten years ago, and was doing well until attacked by diarrhea, which carried him off after being 17 days in the hospital. 2. Catharine Brown (coloured) vaccinated 8 years; doing well until an abortion with considerable uterine hemorrhage took place, after which she grew worse and died, being 14 days in the hospital. 3. John Morris (coloured), and 4. Geo. Epply (white man), the former vaccinated 7, and the latter 14 years previously, were the other individuals. John Morris was 3 days, and George Epply 4 days in the hospital.

Dr BRINCKLE further informs us, that he has had 14 cases of secondary small pox, of which 12 occurred after previous inoculation, and 2 after previous natural small pox. Two of these 14 died, to wit, James Pritchard and Spencer Jackson.

Dr B. although he admits that the facts which have come under his "personal notice have tended in no small degree" to weaken his confidence in the "efficacy of vaccination as a preservative against the fatal effects of small pox," yet would not have it inferred, that he is "prepared to abandon vaccination, or that its efficacy as a preservative against the fatal effects of small pox is considered by me (Dr B.) as inferior to inoculation." "Most unequivocally do I avow my conviction, that vaccination is still to be preferred to inoculation." The result of his experience establishes him in the belief that "when the disease occurs in the vaccinated it is usually lighter than when it takes place in the inoculated."

In a second note he says, "I wish it to be distinctly understood, that, until the occurrence of the present epidemic, I never *met with* a case of small pox (neither genuine nor modified) subsequent to vaccination or variolation, although I had seen many of the vaccinated, and some of the variolated exposed to it. On hearing of cases of variola occurring after vaccina, I was therefore led to believe that the vaccination could not have been *properly* performed. But when personal observation convinced me, that individuals, who bore 'prima facie' evidence of having been *properly* variolated, could again have small pox, the conviction was irresistible, that the same thing could *occasionally* happen after vaccination. Impressed with this belief, my confidence in vaccination is in one sense, and only in one sense, weakened. But my confidence in the prophylactic power of inoculation, as well as of natural variolation, has diminished in an equal, if not in a greater degree.

"Decidedly favourable, then, as I am to vaccination, I should really do injustice to the discovery of the immortal JENNER, were I to contend that a properly vaccinated individual could not under any circumstances be subsequently attacked by small pox.

"To conclude,—the result of my present conviction is, that when small pox does not prevail with *unusual malignity* vaccination is a complete safeguard to the constitution. But when small pox does prevail with *unusual malignity*, vaccination, to say the least of it, is still quite as effectual a preservative against the fatal effects of small pox as variolation, whether naturally or artificially induced.

The following additional note will explain itself.

"MARCH 8, 1828.

"GENTLEMEN,

"I understand a report is in circulation, that Dr PHYSICK's confidence in vaccination has, for the last ten years, been gradually diminishing. Knowing the report to be without foundation, I unhesitatingly assume the responsibility of stating most explicitly,

"1. That Dr PHYSICK's confidence in vaccination has not been diminishing for the last ten years.

"2. That Dr PHYSICK has as much confidence in vaccination now as he ever had.

"3. That, as an evidence of Dr Physick's *confidence* in vaccination, he still continues to recommend it.

"I have the honour to be, Gentlemen,
"Very respectfully,
"Your obedient servant,
"W. D. BRINCKLE."

"Drs Meigs, Coxe and Condie,
"Committee from Medical Society."

Dr Henry Bond, in five years last past, has had two cases of small pox after reputed vaccination. One of these was a boy eight years old, vaccinated four years before by a physician who had no record or remembrance of the fact; his arms had no cicatrix, and his friends were of the very lowest class. This patient died, when the secondary fever supervened, of what appeared to be genuine small pox. The second case described by Dr Bond, from the early fall of the crusts, &c. seems to have been very much modified. His patient recovered. The committee consider these cases as not at all inconsistent with the assertions of Dr B. that he has seen no case where there was danger of death or deformity in an individual who had been undoubtedly vaccinated. He states that he could cite numerous cases in proof of the protective efficacy of vaccination, but deems it unnecessary to do so.

Dr John Barnes relates his experience as having been derived from the occurrence of small pox and varioloid disease to the amount of between two and three hundred cases, and replies to the whole of our queries—*None.*

Dr John Bell has seen cases of eruptive disease, resembling small pox in all essential particulars, after vaccination; the evidence of this operation being derived from the scar, or the information of parents or friends: but he has seen no instance of death from the abovementioned cases. He has had no case of secondary small pox during the present visitation. He refers to the four examples of this sort, of which a history has already been given in Mitchell and Bell's account of the small pox of 1823—4. See the North Am. Med. and Surg. Journal, Nos. 1 and 2.

Although, of a given number of cases of small pox after vaccination, he has seen more violent attacks this season than in the former epidemic: yet, on a review of the whole evidence, not inconsiderable, he can confidently assert that no facts have come under his personal notice, tending, in any degree, to weaken his confidence in the *efficacy* of vaccination as a preservative against the *fatal effects* of small pox. Wherever the danger (with one exception) has been imminent, he has had good reasons to doubt if the vaccination was properly performed. In these doubtful cases (which have all recovered) the symptoms were such as in unequivocal small pox would have augured a fatal termination.

Dr Franklin Bache has seen no case of genuine small pox occurring after vaccination or precedent variola, nor death from modified small pox. To the sixth query he replies negatively.

John R. Coxe, M.D. Professor of Materia Medica in the University of Pennsylvania.—We have been favoured by this gentleman with a most interesting communication, in which we find abundance of both facts and arguments, to corroborate the testimony which he has precedently given on the subject of vaccination. Dr Coxe may be regarded as the founder of vaccination in Pennsylvania.

"Twenty-six years," says he, "have just elapsed, since I first succeeded in introducing the vaccine disease into Philadelphia: a new generation has within that period sprung up, who owe their safety from the small pox to the former disease. If we suppose the population of Philadelphia to amount only to 120,000, we shall probably not err in stating the vaccinated portion at one half: we have had, in the period named, the small pox several times amongst us; but, although the inoculation for that disease has been long suspended, except as a test after the vaccine, we have never seen it spread amongst that immense number who have been vaccinated! Is it possible to imagine that one half of a city, like Philadelphia, could have so entirely escaped the ravages of an epidemic, if they had not securely opposed the egis of Jenner to that loathsome and dangerous disease? Where are the numerous vestiges, *now*, of its frightful ravages. It is now as *rare* to see a person disfigured from the small pox, as it was *common* formerly." . . . . "It will, I think, be found, that the description of varioloid is very similar to that of many of the cases of small pox as laid down by the old writers on the subject; and more particularly of some of those anomalous ones, which were apparent in almost every epidemic described. It is well to remember, that few physicians now living have ever witnessed such an epidemic; and our knowledge must be derived from a close comparison of our so called cases of varioloid with the accounts handed down to us by those who have witnessed small pox in every shape and feature. Let such a comparison be strictly instituted between the accounts left us by Sydenham, Morton and writers even preceding them, and those of varioloid and modified small pox of the present period, and a strong analogy will be found to exist between them."

We will cite further, from professor Coxe's communication, the following:

"There is perhaps no individual in the United States, probably in the world, who has a more undoubted right to question the assertions made against vaccination than one of the members of your committee. Himself, one of the earliest of those subjected to its influence, now upwards of 26 years of age; (he was) immediately afterwards submitted to every possible means of variolous infection. Inoculated during a successive series of years, probably, at least fifty times by myself and subsequently repeated by his own hands; he was likewise exposed for a considerable time, and held in the arms of an individual in the most malignant state of small pox, not more than ten weeks after the termination of the vaccine.

"This, together with numerous other trials on the subject made with every possible care and precaution, many of which are detailed in my treatise on vaccination published in 1802, fully satisfied my mind, that the vaccine was entitled to every praise, as a preservative against small pox, which had been ascribed to it by the illustrious Jenner." He proceeds to state that he has no reason to believe that any case that has thus come under his care has been affected subsequently with what is termed the varioloid. The committee regret that they cannot include the whole of this very interesting communication in their report. They hope it will be given to the public in a separate form.

Dr D. **Theodore Coxe** has seen no genuine small pox after vaccination, nor death from modified small pox—has seen three cases of variola subsequent to inoculated variola. One (an old black) died. He does not feel assured that this man had ever been truly affected with the disease. His confidence in the protective efficacy of vaccine complete.

Dr **Comstock** reports, that no facts have come under his notice which diminish his confidence in regard to vaccination.

Dr D. **Francis Condie**, physician to out-door poor for the western district of Southwark, has seen a majority of the patients who have been sent from his district to the hospital, in addition to those occurring to him as physician to out-door poor, and in his private practice. Views the disease in the unprotected as genuine variola. States that such cases in 1823,4 very generally terminated fatally; but during the recent prevalence, such have for the major part recovered.

In the same neighbourhood and families with the above, many vaccinated and inoculated persons were affected with a modified disease, in which the eruption appeared sooner, was attended with less inflammation and milder constitutional symptoms: the course was completed in from five to ten days, giving evidence of no fetor, secondary fever or cicatrices.

In vaccinated persons this affection required little remedial treatment, and where Dr C. had vaccinated the individuals himself, and was satisfied with its genuineness, their attacks were invariably mild, with few eruptions on the face, breast and arms.

Cases of modified disease, subsequent to small pox inoculated or natural, were more violent as to eruptions, inflammation, constitutional disturbance, and duration.

Dr **Condie** has lost only one patient affected with secondary small pox. The man was 35 æt. and bore in his face the marks of the antecedent attack, which had been sustained in his youth.

As to the protection derived from small pox, the Doctor thinks his personal experience warrants him in believing, that, if not more liable to the disease a second time, those who have had it once are in "case of a re-attack certainly less fully protected from a fatal result than those who have undergone vaccination."

On the question of identity of the poison which produces variola and its modifications, he cites in proof of it the following cases. Mrs Pritchett, a vaccinated person, severely attacked with the modified form on the 15th October 1817—she was well in ten days. On the 19th idem, her daughter, 3 or 4 æt. and unvaccinated, was seized with small pox, and on the 14th day died. A sister of Mrs P. æt. 16, vaccinated, was also seized on the 19th, with the modified form. On the 1st of November, Mr P. the husband, æt. 35, pitted with previous small pox, was taken sick; and died on the 16th day. A few days after, Mr P.'s son, æt. 10, unprotected, was attacked by natural small pox, and died on the 10th day of the eruption. Dr **Condie**'s communication contains several other examples of similar scope and tendency. Our report will not admit of the details.

His own practice affords also very decisive proofs that the vaccine impression does not wear out or lose its protective efficacy by lapse of time, as he has seen the disease equally violent and equally mild at every period after vaccination, from a few days to twenty years.

Finally, he "conscientiously and deliberately" asserts, that he knows no circumstance calculated to weaken his faith in the preservative efficacy of genuine vaccination against the fatal effects of small pox.

Dr E. JENNER COXE has seen no case of genuine small pox subsequent to vaccination or variolation, nor any death from modified small pox. He regards vaccination as capable, when successful, "of imparting to the system a certain power capable of resisting an attack of *genuine* small pox, or rendering a recovery from modified small pox or varioloid absolutely certain."

Dr B. H. COATES reports no unmodified cases after vaccination, but has seen numerous modified cases of various severity, yet none of them fatal. Has seen no case of any sort after variola. Experience has greatly confirmed his impressions as to the propriety of vaccination as a preventive of small pox; all the cases he has witnessed being incomparably milder than mere variola.

W. P. DEWEES, M.D. adjunct professor of midwifery in the University of Pennsylvania, has seen no genuine small pox after vaccination, no death from modified small pox, nor variola subsequent to inoculated small pox. Nor, continues the professor, "any thing, tending in any degree to weaken my confidence in the efficacy of vaccination as a preservative against the fatal effects of small pox."

Dr W. B. DUFFIELD has had many cases of small pox after vaccination, all very mild, except one which was a very bad case, but recovered. The above had been all properly vaccinated. Has seen no death from "meliorated small pox." Never knew a person to have small pox twice. As regards the sixth question, "I say I have confidence in vaccination, though not of the same kind I had when it was first introduced, because I then believed that all who were properly vaccinated would be forever and entirely preserved from small pox; this, however, I find not to be the case. I am, nevertheless, an advocate for vaccination."

Dr S. EMLEN, one of the physicians to the Pennsylvania Hospital, has seen no genuine small pox after vaccination, during the recent occurrence of small pox here. All his modified cases exceedingly mild, neither has he seen any secondary small pox. Dr E. never knew a fatal termination of varioloid; which, in those patients he had himself vaccinated, has been attended with indisposition as slight as accompanies the most trifling forms of eruptive disease. Says he should, in fact, have called them varicella, had not the source of the contagion been, manifestly, small pox; in some instances, the natural small pox having been present in the house. The disease in children so circumstanced has exhibited great variety, from a simple rash up to the mildest form of variola.

Dr BENJAMIN ELLIS states, that he has seen only one case of genuine small pox after vaccination; the only evidence of the operation being derived from the girl herself, a negro—she recovered. No death from modified small pox. A case of small pox proved fatal in a boy in the year 1823; his mother said he had been regularly inoculated in Ireland. The eruption was confluent. Instead of any circumstances to weaken his confidence in vaccination, he has observed many that confirm his previous opinion of its superiority over every other preservative, and of its absolute power to modify and disarm small pox of its fatal character.

Dr S. M. Fox has seen cases of small pox after vaccination, but very generally mild and modified; he felt satisfied from testimony, and the comparative mildness of the disease, that vaccination had been properly performed. This gentleman says, "one case of death has occurred under my personal notice from small pox after vaccination: this was a case of confluent small pox, the eruption flat, depressed and of a very bad appearance, slight fetor was observed for a day;—great soreness of the throat, difficulty of breathing and of deglutition, with stupor, were the symptoms of the latter period. This case terminated fatally on the 11th day. The patient had been vaccinated in childhood by a late physician of great eminence." Has seen no case subsequent to variola, but had seven patients of this class in 1823-4: "were said to have been inoculated:" one died: he had no scar from inoculation, but he and his friends were positive as to his inoculation. Dr Fox thought it very doubtful. States that he considers vaccination as the best preservative we are possessed of against the fatal effects of small pox.

Dr L. P. **Gebhard** had a case of confluent small pox in a female adult: had been vaccinated 20 years—but in consequence of the eruption, could discern no scar. She had no unpleasant odour nor pits—recovered. Is not sure as to her having been properly vaccinated, but thinks the case was somewhat modified. His confidence in vaccination remains undiminished.

Dr **Richard Harlan**, one of the surgeons of the Philadelphia Alms House, reports two cases of varioloid disease: one in a female, who insisted that she had sustained natural small pox in infancy; it was severe but not fatal. The second (mild), in a gentleman who had been undoubtedly inoculated. His cases of varioloid, after reputed vaccination, have all recovered. Never had varioloid in a patient vaccinated by himself. Has of late years experienced great difficulty in procuring successful results from the use of vaccine matter, although carefully selected. After failing eight or ten times (with the crust), has never failed in the first attempt with fresh lymph taken about the 8th day. Has seen no case of varioloid after vaccination, within 12 years of the vaccination. States his confidence in genuine vaccination as undiminished, but thinks the virus ought to be renovated by taking it again from the cow.

Dr **Thomas T. Hewson**, one of the surgeons to the Pennsylvania Hospital, being charged with investigations on the subject of variola, &c. by another institution (the College of Physicians), only answers to the last query, that his confidence in the protective powers of vaccination remains undiminished.

Dr R. M. **Huston** has seen no genuine small pox after vaccination, nor death from modified small pox. Two cases of small pox after variola—none dead. His confidence in the vaccine protection confirmed.

Dr W. S. Helmuth, vaccine physician for Moyamensing, has seen no genuine small pox subsequent to vaccination. No death from modified small pox. One case of genuine variola after natural small pox—the patient recovered. His confidence in vaccination confirmed by daily observation.

Dr H. L. Hodge, one of the physicians to the Philadelphia Alms House, has seen one case of "apparently genuine" small pox after vaccination; the patient had a cicatrix from vaccination, but not well characterized. He has seen no fatal case of modified variola, no secondary small pox, and notices the protective power of the Jennerian method, in rendering mild and gentle a disease which is destroying "one half of its unprotected subjects." He considers vaccination as "far preferable" to inoculation under the most favourable circumstances.

Dr W. E. Horner reports three instances of small pox occurring after vaccination. The vaccination probably perfect, as Dr H. cites a physician of great repute as the vaccinator in two, and in the third case there was a cicatrix. Has seen no fatal case of small pox, and consequently, his confidence in the efficacy of vaccination, as a preservative from the fatal effects of small pox, is not shaken by his private experience.

Dr Isaac Heylin, early acquainted with the preservative powers of vaccination, having frequently subjected his patients to the test of inoculation, without in any case producing variola. He considers an effectual vaccination as equal in efficacy to inoculation or natural small pox.

Dr Thomas C. James, professor of midwifery in the University of Pennsylvania, has seen a few cases of mild small pox after vaccination. The eruption ran through its stages more rapidly than in genuine variola: there was no peculiar odour and no secondary fever. In the cases above alluded to, he says, that vaccination was performed either by himself or by friends in whom he places confidence; and that it was strictly satisfactory at the time. Has seen no death from modified small pox: no case of small pox after previous inoculated or natural small pox. And finally, no case has come under his personal notice to weaken his confidence in the efficacy of vaccination as a preservative against the fatal effects of small pox.

Dr Harvey Klapp, vaccine physician for Southwark, saw a fatal case of small pox subsequent to vaccination; the operation having been performed fifteen years before, as it was said. He also saw a fatal case of secondary small pox, in which the patient died on the sixth day of the eruption. Has had another case after previous natural small pox, but the person recovered. Says he has seen more cases of modified small pox after vaccination, than after inoculation, owing to the greater number of vaccinated persons. The disease has occurred indifferently from three months to twenty years after the insertion of the vaccine virus. Remarks that he has seen only one case tending to weaken his confidence, and that one doubtful.

Dr John K. Mitchell, one of the physicians to the Pennsylvania Hospital, refers us to Mitchell and Bell's paper in the first and second numbers of the North American Medical and Surgical Journal, for an exposition of his opinions and the facts on which they are founded, and avers that his confidence in "vaccination has been confirmed by his subsequent experience." He prefers vaccination to inoculation, under all circumstances.

Dr George Mifflin has seen no small pox after vaccination; from modified small pox no death, nor small pox after variola. His confidence remains unshaken.

Dr Charles Mifflin reports that no genuine small pox, after vaccination or variola, has come under his personal notice; nor any case of fatal modified small pox. No facts have come under his personal notice to weaken his confidence in the efficacy of vaccination, as a preservative against the fatal effects of small pox.

Dr Thomas D. Mitchell, of Frankford, notices the modified small pox as it occurred at Frankford, in this vicinity, and refers to his essay published in the Medical Recorder for 1822. His opinion as to the preservative efficacy of vaccination has not been in the least changed.

Dr John Wilson Moore has seen a number of cases of small pox subsequent to vaccination; some of a confluent character; in a few instances he could not discern that vaccination had exerted much, if any influence. Supposes generally, that they had been well vaccinated. Three cases were mortal. One was a male, æt. 19, vaccinated when a lad, first seen on the 6th day of eruption, and he died on the third or fourth, of desiccation. This one occurred in 1824. In 1828, attended a female, æt. 18, who had been vaccinated when a child in the Pennsylvania Hospital, and (so said the parents) in a satisfactory manner. She had a cold when she was taken sick with the varioloid, and when the doctor saw her on the third day of the eruption, "she was labouring under a state of *pneumonia typhodes.*" She died two days afterwards, which was the fifth of the eruption. The last was in a coloured woman, æt. 22, vaccinated *in the country when a child.* Dr M. saw her on the sixth or seventh day of the eruption; pock turned on the ninth; when she appeared to be doing well. Fever ensued, with delirium, and she died on the sixteenth day.

The same gentleman reports two cases of small pox after inoculated variola, but no deaths under that head. His confidence is weakened—he early viewed it as an entire preventive of small pox infection. He states that he knows of no death where there has been "professional assurance of satisfactory vaccination."

Dr Henry Neill has seen one case of genuine small pox after vaccination. No death from modified small pox. Two cases of modified small pox after precedent inoculated variola. Dr N. informs us that having seen genuine small pox after vaccination, and very alarming modified variola after inoculated small pox, he supposes neither vaccination nor inoculation are *infallible preventives* of the fatal effects of our disease.

Dr John C. Otto, one of the physicians to the Pennsylvania Hospital, has seen many cases of what is usually termed varioloid, which he regards as small pox "mitigated by successful vaccination." The disease, though very generally mild, short and safe, was, in a few persons, of a more severe character; not distinguishable from a very high grade of natural or inoculated small pox, excepting in its shorter duration. They had confluent eruption, salivation, sore throat, swelling of the fauces, blindness from tumefaction of the face, and strongly marked secondary fever. There was also permanent pitting, and, in one instance, bloody urine. In these cases there could be no doubt of an antecedent genuine vaccination. These examples furnish no instance of a fatal termination. Dr Otto, since he has been in practice, has had at least five persons affected with small pox, who said they had had it before; in all of them several years had elapsed since the inoculation, and they had in the interval been exposed to the infection without taking it. When they took it at last, they knew not the source of the contagion.

These cases only occurred in years when small pox was unusually general and malignant.

All the cases were dangerous, and one female died. She communicated the disease to her five vaccinated children, three of whom had it confluent—they all recovered.

Dr Otto is not induced, from all he has witnessed, to relax in his efforts to disseminate vaccination as widely as possible. He recommends it exclusively to the patronage of the public.

Dr Ph. Peltz, Jr. No case of genuine small pox after vaccination, nor fatal modified small pox. A few cases of genuine variola after inoculation, and a fatal one after natural small pox. His confidence strengthened.

Dr J. Rodman Paul relates the history of natural and of modified small pox cases occurring in the family of John Havenstrite of Philadelphia, which was composed of ten individuals; viz. three inoculated, four vaccinated, and three unprotected. Of the latter, two were twins two months old, and one about two years of age.

The disease first attacked a boy of twelve years æt. who had been vaccinated when an infant. It was a severe but modified case; recovered. The mother of the twins refused to have them vaccinated; they took the disease, and both perished. The other child was subjected to the vaccine influence which went on in its regular course until the thirteenth day, when he had accession of fever, followed by four or five varioloid pustules, requiring no treatment—he recovered.

The three vaccinated members of the family also had varioloid eruptions of a mild character. The mother who was inoculated suckled her twins; she had fever but no eruption for some days; when her nipples became sore, and a number of varioloid pustules appeared on the breast only. The other two inoculated persons escaped.

Dr Joseph Parrish, one of the surgeons to the Pennsylvania Hospital, has seen two cases of small pox after reputed vaccination, and both proved fatal. One of these cases is reported above by Dr Fox. Dr Parrish is unable to give any clear opinion as to the genuineness of the vaccination in the other case. Does not recollect ever having seen a fatal case of modified small pox or rather varioloid. Has seen three cases of secondary small pox, two of which were fatal. Two had been inoculated and one had suffered natural small pox. "My confidence," says he, "in vaccination as a preservative against the fatal effects of small pox, still continues firm—the few exceptions do not impair in my mind the efficacy of the general rule, and the same exceptions apply to inoculated and even natural small pox. Hence, as vaccination is entirely free from all risk of life, and from the power of communicating a fatal disease to others, I consider its superiority in every respect most decided."

Dr **John Ruan** has seen no case of mortality from modified small pox, and states his confidence in the prophylactic powers of vaccination, to be not in any degree weakened by his past experience.

Dr **J. C. Rousseau** has seen no case of varioloid in any individual vaccinated by himself. No death from modified small pox: has seen violent cases of secondary small pox, but none mortal. His confidence is firmer than ever.

Dr **Thomas Shivers**. No genuine variola subsequent to vaccination, but has had three cases in persons previously inoculated, one of whom died. Regards vaccination as the only secure prophylactic. As instances of the malignant nature of the prevailing small pox, we will cite from Dr S.'s letter to the committee, the following: "Of seven cases that I have had this season of natural small pox in subjects who had never been either vaccinated or inoculated, *all have died;*" while of about forty cases in persons vaccinated, not one has perished.

Dr **W. Shaw** informs the committee that he has seen no genuine small pox after successful vaccination. Has vaccinated several thousands since the year 1802, and has heard of no instance of small pox occurring in one of these subjects. No death from modified variola. Of two instances of small pox occurring after inoculated variola neither proved fatal. His early experiments with genuine variolous matter, as a test for vaccination, established his conviction of its efficacy, and he still has the fullest faith in it.

Dr **Samuel Tucker**. No case of genuine small pox subsequent to vaccination, nor death from modified small pox, or case of secondary small pox has fallen under the notice of this gentleman, who informs us that nothing has occurred in his experience to weaken his confidence in the vaccine protection.

Dr **G. B. Wood**. Out of twenty cases of varioloid after vaccination, *one* presented all the symptoms of genuine variola, with the exception that none of the peculiar odour was discernible. This patient had the scar, and said she was vaccinated when a child—recovered. No death from modified small pox. Of three persons precedently inoculated, two had varioloid, and one genuine variola: the man, æt. thirty-five, and intemperate, died. Has seen in his own practice nothing that could justify an opinion that vaccination is not an effectual preservative against the fatal effects of small pox.

Dr John Wiltbank. J. P. a coloured man, æt. twenty-five, had pain in the head, breast and side, dyspnœa, high vascular excitement, and all the symptoms of pleurisy. On his arm was a fine vaccine vesicle nine days old. This man was vaccinated on the Monday, seen on the Tuesday week following, when he was bled, blistered and used diaphoretics. On that day a copious eruption of variola presented itself, which proved confluent, and he died on the fifth day. Dr W. adds that the above case is the only one that he has seen, to diminish confidence in the protective efficacy of the vaccine disease.

Dr Thomas H. Yardly, answering negatively to our queries, concludes with assurance of his reliance on vaccination as a protection against small pox.

From the above condensed view of the testimony furnished to us by a very great number of highly respectable practitioners, the committee were tempted to trespass no further on your time by presenting additional observations, being persuaded that no candid mind could remain in doubt, either as to the value of vaccination as a prophylactic in the case under consideration, or as to the sentiments of the medical profession in this city towards it; but, although not one dissentient voice has been raised, it is deemed proper to make a few further remarks. And

1. These documents shew that varioloid disease has attacked both variolated and vaccinated persons.

2. Of the whole number of variolated cases, say seven hundred and sixty-five, far the largest proportion occurred in vaccinated persons, a circumstance which, as a naked proposition, might tend to exalt the public confidence in inoculation at the expense of vaccination. Now, although we are unable to ascertain with any pretensions to preciseness the just allotment of the two orders of cases, enough has been said, to indicate that the susceptibility to *varioloid* is not very greatly different under both sorts of protection. It is highly probable that at least eighty thousand vaccinated persons reside in this city; while there are not more than twenty thousand, and probably even a smaller number of variolated persons; hence, on the supposition of an exactly equal susceptibility, we ought to find four cases of varioloid after vaccine, to one case of the same affection subsequent to variola.

In the documents, ten deaths are reported as having occurred from small pox subsequent to vaccination, while nine are cited as proofs of the failure of variola to protect the constitution. Let us examine a little the circumstances of the ten fatal cases, and we shall see if they can be fairly cited. For example out of the four reported from the personal observation of Dr **Brinckle**, one, Catherine Brown, was doing well until an abortion with uterine hemorrhage took place, after which she changed for the worse and finally lost her life.

The cases of Epply and Morris, which were under treatment four and five days respectively, are liable to be questioned. No positive record is given of their having been vaccinated : the only assurance is derived from their own assertions. Even the case of Spencer Jackson, who died in the hospital seventeen days after his admission, is obnoxious to the same doubts, in consequence of its protracted duration. And it is easier to believe that all these individuals had undergone a spurious form of vaccine than that vaccine should have failed to protect them.

Dr **Bond**'s case is considered by him as extremely questionable. Dr **Fox**'s case may be admitted as an example of death from small pox subsequent to vaccination. The known character of the eminent and conscientiously cautious individual who had vaccinated the unfortunate gentleman forbids us to doubt that he considered his vaccination perfectly satisfactory, or that he could be mistaken in its character.

Dr **Klapp**'s case is stated by him to be doubtful. Of Dr **Moore**'s fatal cases only two occurred in 1827, 8. The woman when taken sick was suffering under a cold, and was labouring under an attack of pneumonia typhodes when the Dr saw her on the third day of the eruption : she died on the fifth day. The second woman died, on the sixteenth day, of a secondary fever which came on after the pock turned.

There will be no reason to charge the committee with want of candour if they reject both these examples of death from small pox after reputed vaccination. The pneumonia typhodes has no necessary connexion with variola, and the woman's death ought rather to be charged on that terrific complication than on an implied impotency of the vaccine. The second case from its long duration and other phenomena seems to have been an unmodified small pox. No fatal case of modified small pox has been adduced. In neither case is there furnished an authentic record of the vaccination,—which ought therefore to be deemed hypothetical. Lastly, Dr **Wiltbank**'s case, occurring before the constitution had been modified by the maturity of the vaccine vesicle, proves nothing against its value and efficacy.

Thus we may, without the least want of candour, come to the conclusion that only one death from small pox after vaccination has occurred in Philadelphia during the year 1827, among eighty thousand vaccinated persons and during the prevalence of a most malignant and mortal small pox, while several individuals have lost their lives from small pox after they had already gone once through the disease. It appears then clearly that vaccination ought to lose nothing of the public confidence; and, as a protection from the fatal effects of genuine small pox, it may safely be asserted, that it is in every sense to be preferred to inoculation.

Let the public be well informed with regard to the real degree of efficacy of the vaccine virus—let them be no longer told, it will positively shield them from the assault of small pox in any shape and every instance. They will confide in it if we point them to the physicians who rely on it for the safety of their wives and children, and defended by "the egis of Jenner," walk unharmed themselves amidst the arrows of pestilence and death.

EDWARD JENNER COXE,
D. FRANCIS CONDIE,
CH. D. MEIGS.

The committee have received several communications, in reply to their queries, since the above report was finished; and they regret that the lateness of the period at which they arrived prevented their incorporation into the body of the report. The writers are Dr W. Carll Brewster; Dr J. Green; Dr Joseph Hartshorne; Dr B. S. Janney; Dr Joseph G. Nancrede, vaccine physician for the city; Dr O. H. Taylor; Dr H. Walton; and Dr J. Uhler, Jr.

We can only briefly state that they support by their communications the whole mass of the evidence given above. Their experience (in some very considerable) has not, in the least degree, tended to destroy their confidence in vaccination; whose preservative efficacy has been found sufficient, by a part of these gentlemen, to defend them from the contagion of small pox, though repeatedly exposed to it in their professional intercourse with the sick. Their letters are submitted, with the rest of the documents, to the disposal of the Society.

BIBLIOGRAPHICAL NOTICES.

Article XIX.—*The Eclectic and General Dispensatory: comprehending a System of Pharmacy, Materia Medica, the Formulæ of the London, Edinburgh, and Dublin Pharmacopœias, Prescriptions of many eminent Physicians, and Receipts for the most common Empirical Medicines:* Collated from the best authorities by an American Physician. Pp. 627. Philadelphia. Towar & Hogan, 1827.

This volume is a reprint of parts of several works, relating to the science of Pharmacy. Its arrangement is copied from the London Dispensatory of Mr Anthony Todd Thomson, and consists of three parts and numerous appendices: the first part being entitled the *Elements of Pharmacy;* the second, *Materia Medica;* and the third, *Preparations and Compounds.* The exordium, under the head of "Elements of Pharmacy," comprising the first few paragraphs, is taken from Mr Thomson's work. The next article, on the collection and preservation of simples, is borrowed from Dr Duncan's Dispensatory; while the remainder of the Elements of Pharmacy is a reprint from Mr Thomson.

The appendix to Part I. or the Elements of Pharmacy, comprises all the matter contained in the corresponding part of the London Dispensatory, with the addition of a few tables from the Dispensatories of Drs Duncan and Coxe.

Part II. on the Materia Medica, is printed from Mr Thomson's Dispensatory, with a few omissions and additions. The omissions consist most generally of botanical descriptions, and the additions comprise the account of several American plants, which have been introduced into the practice of medicine.

Part III. entitled Preparations and Compounds, is also extracted from Thomson, together with the tables of new and former names, found in the different editions of the London Pharmacopœia.

Of appendix No. I. to the general work, the articles "water" and "mineral" waters are taken from Thomson. The toxicological tables are derived at second hand from Dr Coxe. The article on the art of prescribing medicines is taken from Dr Paris's Pharmacologia; the collection of prescriptions, from Pearson's Thesaurus Medicaminum; and the articles on hydrocyanic acid, iodine, oil of croton, and wine of colchicum, as well as the table of synonymes, from Thomson.

Appendix No. II. consists of a farrago of short articles, taken here and there from Gray's supplement to the London Pharmacopœia, comprising notices relating to many diverse subjects; such as domestic and empirical plants and medicines,—articles used in surgery,—formulæ not found in the pharmacopœias,—native vegetable alkalies,—diet used by the sick,—artificial mineral waters, &c. &c. Next follows a list of medical contractions, also copied from GRAY: and this closes the volume, with the exception of seven plates of apparatus, which, with their description, are taken from THOMSON.

Such then are the materials of which this book is composed, and from the character of the works which have been mentioned, it must be conceded that some of the best authorities relating to pharmacy have been employed. But it is not sufficient that the most valuable sources of information have been resorted to; it is not merely necessary to say to a printer, reprint fifty pages of one work, two hundred pages of a second, and one hundred of a third, in order to form a compilation. Humble as the labours of the compiler may be conceived to be, something more is evidently necessary. Thus, the matter borrowed from various sources should be well selected and carefully collated, pruned of repetitions and freed from inconsistencies. In short, the different extracts should be elaborated into something like unity of design, and the work, being rendered as homogeneous as possible, ought to be adapted to the particular wants of the class of readers for whom it is intended.

With these views of the duties of compilers and the qualities belonging to good compilations, we shall notice, with as much brevity as possible, the different parts of the work before us, testing its execution by the principles we have laid down.

In the compilation under notice, the Elements of Pharmacy are opened with several introductory paragraphs, taken, as we have already mentioned, from THOMSON, in which this part of pharmacy is stated to comprehend those general principles of chemical action which enable us to reason on the results of pharmaceutical operations; and the explanation of the operations of pharmacy, with a description of the apparatus.

In conformity with this statement of the objects comprehended under the idea of the Elements of Pharmacy, Mr THOMSON proceeds, in his Dispensatory, to treat this part of his subject under the following sections: Section I. More general agents, influencing pharmaceutical combinations. Section II. Constitutions and combinations of substances. Section III. Pharmaceutical operations and the description of the apparatus.

The definition of the Elements of Pharmacy having been adopted from THOMSON, it was natural to expect in the dispensatory before us, that the arrangement of this author would have been followed. Notwithstanding the reasonableness of this expectation, the introductory paragraphs are immediately followed by an extract from Dr DUNCAN's Dispensatory on the collection and preservation of simples, under the title of "Pharmaceutical Operations;" after which the whole of the Elements of Pharmacy of THOMSON are reprinted. The three divisions of the original work are retained; but inadvertently the second division is distinguished as section II., though there is no section I. or III. But a more material objection is, that the division marked section II. is not made to assimilate with the other two divisions by a title running through the two columns of the page. The third division is entitled, after THOMSON, "*Pharmaceutical Operations* and apparatus." As the extract from DUNCAN on the collection and preservation of simples is entitled "*Pharmaceutical Opera-*

tions," we have the incongruity of two divisions under the Elements of Pharmacy with the same title.

When a compiler avails himself largely of the labours of others, and adopts in mass considerable portions of different publications, it would seem that he is under some obligation to revise the text adopted, with a view to the correction of any errors which may have crept into the original through the fault of the author or printer. Under this impression, we think the following errors ought to have been corrected in the present work. At page 34, nitrous gas is called *protoxide* of azote, instead of *deutoxide;* and nitrous oxide, *deutoxide* of azote, instead of *protoxide.* At page 36, 100 volumes ammoniacal gas + 100 volumes carbonic acid are said to form carbonate of ammonia, whereas they form bicarbonate; and 100 volumes ammoniacal gas + 100 sulphuretted hydrogen are stated to form hydrosulphuret of ammonia, when in fact the correct proportions are 200 volumes ammoniacal gas + 100 sulphuretted hydrogen. Again, in the table at page 37, water is stated to consist of *one volume* of hydrogen + *two volumes* of oxygen, and carbonic *acid* is printed for carbonic *oxide.*

And here we may be permitted to remark, that if the American physician had used the latest edition of Mr THOMSON'S Dispensatory, he might have avoided some of these errors; for though they exist in the edition of 1824, which appears to have been employed in the preparation of the present volume, they are in part corrected in that of 1826. Now, it was to be expected that the latest edition would have been employed; for independently of the advantage to be derived from using a last edition, as freer from errors of mere inadvertence, it has always been considered as judicious in a compiler to avail himself of the last modifications and additions of the author from whom he proposes to draw. If this rule had been attended to, the articles hydrocyanic acid, iodine, croton oil, wine of colchicum, &c. instead of being printed in an appendix, would have formed a part of the text of the present work; and it would probably have been enriched with the articles on "Incompatibles," "Pharmaceutical Equivalents" and "Oxalic Acid," which are among the more important additions to the new edition of THOMSON.

We have already stated, that part II. on the Materia Medica, has been borrowed from THOMSON, with slight omissions and additions. The additions consist almost exclusively of descriptions of American medicinal plants, taken, for the most part, from THATCHER and DYCKMAN; part of them inserted alphabetically, and the rest appended, under the title of "American medicines, omitted in the text." Our impression is, that this list is far from being complete.

A remarkable instance of anomalous arrangement is furnished in appendix No. I. After several pages have been copied from THOMSON on mineral waters, a set of toxicological tables are introduced, which naturally lead the reader to suppose that the article on mineral waters is finished; but what must be his surprise to find, that, after ten pages of tables on poisons are disposed of, the article on mineral waters is resumed, and now completed without further break or interruption. It was to be expected that the American physician, having determined to copy the article on mineral waters from the London Dispensatory, would have printed it continuously.

In the extract from PARIS on the art of prescribing medicines, the printer is chargeable with the rare fault of following the original too closely. Thus we have, in almost every column of this excerpt, numerical references to medical formulæ. For example, the reader is referred to formulæ 42, 126, 127, and to formulæ 3, 4, 5, and this perhaps in twenty different places. He is also referred to particular volumes and pages. But as the American physician has not copied the formulæ, and as the volume and page indicated relate exclusively to Dr Paris's work, it would have been better if these references had been omitted.

The selections from Pearson's Thesaurus Medicaminum embrace many valuable formulæ. The last edition of this work, printed in 1810, followed the nomenclature of the then last editions of the British pharmacopœias. Since that time, the London and Edinburgh colleges have printed new editions of their pharmacopœias, the last edition of the London having appeared in 1824, and of the Edinburgh in 1817. It would have been an improvement, if the formulæ selected had been made to conform, in nomenclature, to the latest editions of these works.

We have already indicated Gray's Supplement as the source from which the second appendix is derived. In the original, the articles noticed are treated of under the three heads of "organized bodies," "substances not organized," and "miscellaneous matters." "Vegetables" constitute the first division of "organic bodies," and the different plants mentioned are arranged according to the natural orders of Jussieu. First, we have "order I. Algæ," which are thus characterized: "Approach to an animal nature, by containing much nitrogen; none are poisonous." Then follow a number of plants belonging to this order, and among the rest, the "mousse de Corse." This order being completed, we next have, in the parent work, the "fungi" as the second order. The characters of the plants which it embraces are thus enumerated: "Frequently poisonous: the best remedy in this case, after immediate vomiting by tickling the fauces, and the exhibition of clysters, is æther ʒi. in a glass of water. The Russians, however, eat almost every species that are of any size, only stewing them thoroughly, and drinking a glass of brandy after them: and the ancients stewed suspected mushrooms with some twigs of the pear-tree, as an antidote to their bad effects."

In the extracts from Gray for the Eclectic Dispensatory, none of the divisions of the original work are preserved. Accordingly, the articles adopted from the class of vegetables are inserted without distinction into orders. Of the plants, included under the order Algæ by Gray, only one is adopted in the dispensatory before us; namely, the "mousse de Corse." No general characters of the algæ are given; but by a strange mistake, the paragraph detailing the general properties of the *fungi* is made immediately to follow the description of the "mousse de Corse," and that too, without prefixing the title "fungi." By this arrangement of the original text, the "mousse de Corse," which, as one of the algæ, is expressly stated not to be poisonous, is made to appear so by the application to it of the general characters of the fungi.

The same evidences of haste are evinced in the selections from Gray, as in those from Paris. At page 592 we have the following words: "Clematis erecta, as caustic and burning as the former." It would puzzle the reader to extract any meaning from this statement; for if he refer to "the former" article, he has an account of the "white pariera brava," which has no caustic properties whatever. But the whole difficulty is solved by reference to Gray, where we find the article "clematis erecta," preceded by a description of the "wild travellers-joy," the bark and herb of which are stated to be "caustic, raising blisters." Again, in extracting the article "alconorque," reference is made, as in the original work, to orders 154 and 42, though no distinctions of orders have been preserved by the American compiler.

We do not pretend to blame the preparer of the Eclectic Dispensatory, for not having followed the classification of GRAY, in the articles which he has borrowed. The arrangement of this writer is lame and imperfect, and were it otherwise, the excerpts are so much scattered as to render any classification nearly impossible. Nevertheless, it was to be expected that the matter adopted would have been diligently revised, in order to free it from references to divisions which have not been preserved, and to contexts which are nowhere to be found.

Perhaps we have said enough to give our readers an idea of the character of the Eclectic Dispensatory; but before we close this article, we feel disposed to make some observations on the compilation as a whole. In the class of works to which Dispensatories belong, we expect compilation; but the materials should be skilfully wrought, and made to exhibit, as a whole, something of unity of purpose. We would even concede, that the writings of foreigners are fair game; and that booksellers may print them in part or in whole, or make up a volume from portions of different books, just as it suits their fancy, or accords with the suggestions of interest. But is there not an obligation somewhere, that the materials of the compilation should be so modified, as to be adapted to the country in which it is printed, and the wants of the class of readers for whom it is designed? Or if it be determined to make a mere reprint from several authors, is it not proper to indicate to the reader, who it is that addresses him, and to what country he belongs? In the present instance, a Dispensatory is compiled by "an American physician," purporting to be collated from the best authorities. Who then is meant by the personal pronoun "I?" Is the reader bound to know that "I" means ANTHONY TODD THOMSON in the first 500 pages, and JOHN AYRTON PARIS from page 506 to page 545? Numerous statements of facts and opinions are made in different parts of the compilation, and is it certain that the reader will know what portion of them rests on the authority of DUNCAN, what on PEARSON, and what on GRAY? A knowledge of authorities is often important to determine the degree of dependence which may be placed on assertions. In illustration of this position, we may remark, in relation to the last mentioned writer, that the composition of his supplement is sufficient to shew, that he is a person of no respectability, and therefore not to be trusted as an accurate and veracious writer.

Let us next inquire, whether any pains have been taken to adapt the compilation under notice to the wants of the American practitioner. We have already mentioned, that by far the greater part of the work is borrowed from the London Dispensatory. In the English work, England is constantly indicated by the expression "this country," and America is as constantly alluded to as a foreign country. By the adoption of the same phraseology in the American work, "this country" means England, and foreign countries mean the United States, and all the rest of the world besides except England. Thus, at page 163, the stramonium is stated to be "a native of America, but is now naturalized in this country." Again, at page 187 it is said that "the greater part of the quicksilver which is used in *this country*, is brought from Germany in leathern skins." At page 218, we are informed in the article on tobacco, that "the cultivation of it for the purposes of trade has been long prohibited; and *this country*, as well as the greater part of Europe, is chiefly supplied from Virginia."

The Dispensatory under notice is stated to be eclectic, and to be collated from the best authorities. *Eclectic* implies choice, with the exercise of judgment; *to collate* means to compare, with a view to harmonize the objects of comparison. How far the present publication possesses the qualities implied in these terms, is left to the judgment of the reader.

ARTICLE XX.—*Dissertation sur la Non-Réunion de quelques Fractures, et en particulier de celle du bras, et sur un moyen nouveau de guérir les fausses articulations qui en resultent.* Presentée, &c. par J. B. LA ROCHE, Ancien Chirurgien de premiere classe aux Armées, et Chirurgien major de l'Hôpital Militaire d'Huningue, &c. A Paris, 1805.

Dissertation on the Non-Reunion of certain Fractures, and on a new Method of curing false Articulations. By J. B. LA ROCHE, Surgeon, &c.

This thesis has already attracted some attention among us, and been at various times the subject of conversation, from its singular blunders with regard to Dr PHYSICK's name, as well as from the comparison which it institutes between his rational and successful experiment and the conjecture of an honoured friend of the author. We therefore conclude that a notice of it will be not without interest to our subscribers.

Dr LA ROCHE gives us a sketch, in the manner so usual with writers, of the ancient history and modes of treatment of ununited fractures. He then describes at some length the operation of Mr WHITE; which, severe and hazardous as it is, is regarded by him, not without justice, as being, till a recent day, the only resort of surgeons in these unfortunate cases. The main object, however, of his thesis is the operation of Dr PHYSICK. M. L. congratulates himself and the unhappy patient upon the existence of a discovery by which, with far less risk and suffering, the purpose can be effectually answered. He proceeds to narrate the case, as given by Dr PHYSICK, or, we should rather say, as translated by his friend, Dr GAILLARDOT, of St Domingo. We conceive an abstract of the case to be well worth republication; but instead of the honest but oddly erroneous translation, we will betake ourselves to the original, in the New York Medical Repository, Hexade II. Vol. I. No. 26.

Isaac Patterson, a seaman, aged twenty-eight years, fractured his arm, April 11th, 1801, while on board ship; the accident being occasioned by a heavy sea breaking over the vessel. The next day, the captain and mate bound it up in splints; and in three weeks he arrived at Alexandria, D. C.; without having suffered any pain or observed any swelling. A physician, at that place, informed him that the ends of the bone were not in a proper situation; and after making extension, the splints and bandages were again applied. He remained in Alexandria four months; when, finding his arm no stronger, he left off all dressings, and went on board the New York frigate, as steward. In this capacity he remained near the Federal city six months; and, being obliged to use his arm, he found the place of fracture grow more and more flexible, until, at length, it became as free in its motions as a natural joint. From the frigate he went to Baltimore; where his arm was kept in a state of permanent extension for two months.

On his arrival at Philadelphia, Dr PHYSICK found the humerus fractured about two and a half inches above the elbow joint; and that the ends of the bones had passed each other about an inch; the lower fragment being on the outside of the superior portion. By forcible extension, the lower end might be pulled downwards to a considerable extent, but not so far as to bring the fractured ends to the same level.

The patient entered the Pennsylvania Hospital in May 1802; but, in consequence of the heat, and a dangerous attack of fever, the operation was postponed till the 18th of December.

The arm was moderately extended, so as to approximate the ends of the fragments; and a seton-needle, armed with a skein of silk, was passed as nearly as possible between them. Some lint and a pledget were then applied to each of the orifices produced; and the whole secured by a roller. The patient suffered very little pain.

In a few days, an inflammation of no great severity was followed by an equally moderate suppuration. The arm was now again extended, and splints applied. The dressings were renewed daily for twelve weeks; during which time no improvement was perceived: soon after this period, however, stiffness, and pain on flexure, were distinctly noticed, and the bony union went on rapidly. On the 4th of May 1803, four months and sixteen days after the operation, and between seven and eight weeks from the first discovery of commencing union, the arm was so far recovered, that it could be turned in all directions as freely as before the accident happened. The seton was now removed; and the sores occasioned by it healed in a few days. On the 28th of May he was discharged; and Dr PHYSICK subsequently received repeated assurances from him, that his arm was as strong as it had ever been.

The above narrative is given in the thesis with tolerable fairness in a scientific point of view, and evidently with an honest intention. The object of the writer is to set this new operation in the strongest light, as the blessing to humanity which it really is. In this Dr L. acts as a philanthropist and deserves praise. He is also evidently a man of practical experience, and has seen surgery before he offered this thesis to the faculty of Paris. At the same time we think the translator really deserves a serious censure, at least if the errors of the narrative are chargeable to him; as more care is surely to be demanded in translating papers of scientific importance. We may smile at recognizing "*New Yorck*" in its queer Dutch-French dress, and may require a few minutes to "guess" out Washington under the disguise of "*Podéralcity*"; but it really seems hardly possible to conceive the process by which the name of our venerated preceptor could be, "de bonne foi," transformed into "Monsieur le docteur Philippe S. . . . . medecin et chirurgien dans les Etats-Unis"!! Certainly, where a man's publications are fit objects for translation and analysis, his name is worthy of being correctly spelled. And our national pride will hardly permit us to believe that "M. GAILLARDOT, médecin, revenant de St Domingue," could be ignorant of the name and standing of his author—

"Whom not to know, argues yourself unknown;"

however, this might have been the case with the surgeon to Bonaparte's armies in Germany. The blunder resembles others of a similar character which we have occasionally seen in notices of the early labours of the Philadelphia Academy of Natural Sciences; where the same name, since then we hope more firmly impressed on the memories of the analysts, was spelt in two or three ways in different parts of the same volume. That this mistaking of Dr Physick's name is intentional, we are far from being prepared to think; but we will aver, that it would be about as correct and as neat in phraseology, to term the venerable Chaussier a cobbler, to style the greatest medical genius of the age, Mons. F. J. V. . . . . brush-maker,—and founder of the school of physiological medicine, or to call M. Gaillardot himself a *ghost* from St Domingo.

M. La Roche proceeds, in terms of warm affection and regret, to mention an operation performed by his late superior, the principal surgeon of the army of the Rhine; in which the latter passed a seton through the cicatrices of a gun-shot fracture of the thigh; the duration of the case not given, to facilitate the isolation and separation of the dead scales of bone, and at the same time, in the hope that "it would excite the divided surfaces, and perhaps at length bring on their adhesion and conglutination." The event was prosperous, and the patient could walk without crutches in two months. "Why," says our author, "did I not then understand him better? And must it be that my ancient chief, most generally too indifferent with regard to his surgical reputation and the fortune of his discoveries, has left this to be made and the honour enjoyed by Dr Philip S. . . . . instead of securing the claim and the priority to the surgery of France?"

This little ebullition, the result of an attachment to his friend and preceptor which does honour to the heart of the writer, proves nothing with regard to the subject of his regret. Nor could the surgeon to whom he alludes have anticipated Dr Physick, had he been never so avaricious of laurels. The operation of the latter was performed in the Pennsylvania Hospital, December 18, 1802: the French entered Augsburgh, under the emperor Napoleon, at no earlier period than the summer of 1805; at which time we presume the operation described by Dr L. was performed; as, although he does not give the *date*, he states it to have been done by the surgeon-general of the army of the Rhine, while in that city. We see, therefore, no foundation for any claim of priority, were even the attempt made; unless, indeed, it be at the sacrifice of truth;—a thing of which, though there have been repeated instances of the occurrence in more countries than one, we judge the author of this thesis incapable. Indeed he introduces the operation, with becoming candour, as "altogether new, and as yet unheard of among French surgeons"—" toute recente, et encore inouie parmi les chirurgiens Francais." We will therefore close by remarking that, as our nation is thought somewhat to resemble the French in the ardent desire for celebrity evinced by so many of its citizens; a property of this kind, wherever placed, ought to be particularly respected by those who ascribe to it so high a value. The love of praise has often been found the most powerful stimulus to medical improvement; and it is only when this is pushed to an injurious degree, that it becomes necessary to check the feeling, by recollecting that the legitimate object of our profession is not glory, but the good work of healing the sick.

If, however, the desire of renown be too strong for philosophy, and our author be still disposed to indulge in regrets that an eminent surgeon whom he knew was anticipated by one with whom he was not acquainted, we can at least offer him the consolation that his friend and preceptor need not be at all ashamed of the individual who has been beforehand with him; and we may couch the "solatia victis" nearly in the words of Virgil:

Hôc tamen, infelix, miseram solabere sortem;
Æneæ magni dextrâ cadis.

ARTICLE XXI.—*Transactions of the Medical Society of the State of New York, for the year* 1828; *with the Annual Address by* T. ROMEYN BECK, M.D. *President of the Society*. Pp. 54.

The Medical Society of the state of New York, especially since the passage of the new law in 1827, appears to be one of the most efficient bodies yet organized in our country, being established and supported by the legislature of the state, and having a body of laws generally excellent and which appear to be enforced. Every county has its incorporated medical society, to which every practising physician in such county must belong, or be liable to all the legal penalties relative to unlicensed physicians. These local societies exercise a medical police, under the sanction, and by the assistance, of the civil power, over its own members. Delegates from each county society, in unison with certain permanent and honorary members, form the State Medical Society, to meet annually, on the first Tuesday in February, at the capital city, Albany. The bye-laws of the county medical societies must not be repugnant to the laws of the State Society. The following regulations, as established by law, or by the State Society (which last have all the force of law), are of general interest.

The regular term for medical studies is four years, except when the student has attended a course of lectures in a medical college, or had a liberal education at a college in the state. To practice physic, a license or diploma is required from one of the county societies, or the degree of Doctor in Medicine from the regents of the University: or as regards strangers, a certificate or diploma, agreeably to the laws of the state or country to which the candidate belongs, which certificate or diploma must be filed with the clerk of the county. The colleges of the state have no authority to grant licences, or the degree of M.D. This last can only be granted by the regents of the University, who are appointed by the legislature, and to whom the candidates for the doctorate are recommended by the county or state societies, or by the trustees and professors of the incorporated colleges of the state. To them also belongs the appointment of these trustees and professors, so that the regents have authority over all the scientific and medical institutions of the state, and yet cannot act, but through the medium of subordinate bodies, while they themselves are responsible to the legislature and the people. The whole is a system of checks and balances in imitation of the constitution of our country.

Among the bye-laws of the State Society, operative on all the county societies, we remark that the following declaration must be signed by every candidate for a licence or diploma, before he is authorized to practice medicine or surgery.

"I, A. B. do solemnly declare, that I will honestly, virtuously and chastely conduct myself in the practice of physic and surgery, with the privileges of exercising which profession I am now to be invested; and that I will with fidelity and honour do every thing in my power for the benefit of the sick committed to my charge." p. 24.

Another regulation should also be noticed.

"That any member of the said society, who may be convicted of any serious offence against the laws of this state, or of the United States, or who may be guilty of gross immorality, or who shall have improper pretensions to any specific or nostrum, or who shall be repeatedly guilty of improper conduct in the duties of his profession, or his behaviour in this society, may be expelled at any anniversary meeting of this society, upon a vote of two-thirds of the members present." p. 27.

The pamphlet before us contains the transactions of the State Society at its annual meeting in February last; together with the annual address of their learned president, Dr T. Romeyn Beck. Of the former, the following are worthy of record and of general diffusion.

"Whereas Dr Benjamin Waterhouse has lent his name in support of, and in sanctioning the empirical practice of Samuel Thomson: therefore,

"*Resolved unanimously*, That the name of Benjamin Waterhouse be stricken from the list of honorary members of this society." p. 6.

Several resolutions on the subject of the increasing evil of intemperance were adopted, declaring, that the habitual use of ardent spirits is productive of weakness and disease and not of strength and vigour: that it is never a preventive of disease, but often predisposes to complaints of a severe character: that the society will discourage the intemperate use of ardent spirits, as far as their influence and example will extend, &c. p. 12.

The importance of improving medical education, and of adopting throughout the United States a uniform system of instruction, has for some time past occupied the attention of the profession. Reference to the fourth volume of this Journal, p. 204, will exhibit the resolutions of the Northampton Medical Convention, which, it is believed, are becoming operative in the eastern states. A national system is, however, desirable, and the New York State Society, at the suggestion of the faculty of Bowdoin College, Maine, have recommended the calling of "a national convention, consisting of a delegate from each of the regular medical colleges and state medical societies, to meet at Philadelphia on the first Tuesday in May next, for the purpose of suggesting and recommending for adoption, so far as is consistent with the laws of the several states, a more uniform system of medical education than now prevails." Dr T. Romeyn Beck has been appointed the delegate on the part of said society. We hope, that this effort will be met with the liberality which it so eminently deserves. Sectional interests and jealousies should be forgotten.

The annual address, from the accomplished and talented author of the Elements of Medical Jurisprudence, on the subject of *Medical Evidence*, is worthy of the writer, and of course, interesting and valuable. After stating the importance of his theme and the necessity which exists and is usually recognized, that medical men should be consulted in every case of violent death, the author observes that it becomes an interesting question, how this principle shall be best exercised for the furtherance of the ends of justice—in punishing the guilty and preserving the innocent—how the obstacles to its proper knowledge shall be best obviated—and how the difficulties that attend its execution may be lessened or removed.

In cases of violent death, what are the duties of professional witnesses, first before the coroner's jury and secondly before the court and jury? Facts are chiefly to be elicited in the one case—opinions as well as facts in the second. The physician is to satisfy himself as to the *cause of death*—and may therefore, and *always* should, demand a dissection of the body, or as an alternative deny his testimony. A knowledge of anatomy—healthy and morbid, and in cases of poisoning, of chemistry, is hence absolutely necessary. The author from this statement very candidly draws an inference which none should be ashamed to admit, that few, very few are fully prepared to give evidence in cases of violent death. The physician in extensive practice has little time, and in the country, still less opportunity of acquiring or even of keeping up, a knowledge of the minutiæ of anatomy or chemistry, and there can be no doubt that "*a man may be a judicious, correct and excellent practitioner of medicine, and yet not competent as a witness*," and hence a fair reputation and great excellence are often tarnished unjustly by the inquiries of the bar and the court. Hence, Dr BECK recommends the appointment of medical men who shall be specially charged with this duty, and who would then qualify themselves for the task. The welfare of the community, the cause of justice and of innocence, as well as the interests of the profession, would in this way be alike promoted. This practice is not novel; it was adopted in 1532 by the Emperor Charles the Fifth,—and in 1662 by Henry the Fourth of France, and is now the general custom on the continent of Europe.

Under existing circumstances dissections and chemical examinations should be made by two or more physicians, who will thus have the benefit of each other's advice and assistance; the more important, as the happiness, reputation and life of an individual often rest on the opinion given by the medical witness. When the physician is cited before the court his situation is more difficult—he must state the facts, the opinion deduced from those facts and the reasons for that opinion. He has often to defend his opinions from the objections of other medical witnesses, and especially from the severe and minute scrutiny by the gentlemen of the bar. The facts should be stated in as plain and perspicuous language as is consistent with precision and accuracy. "The doctrine founded on the facts should next be mentioned in an unequivocal manner, so as at once to evince the decided belief of the individual in it, and the reasons on which it is established," that thus no room,—or as little as possible, may be allowed for cavilling, and that opinions should not be hastily advanced or abandoned. The mischievous effects of such fluctuations of opinion, the author ably illustrates under the two heads of Infanticide and Insanity—our space will not allow us to follow him.

The delicacy of the physician's situation is enhanced by the circumstances under which he is placed—he is summoned by *one* party—and his evidence is expected to corroborate one side and to impugn the other. He should however always declare the *whole truth*, even if not questioned to that extent, and should endeavour to guard against all impatience or irritation from the technicalities of an examination—often rendered more perplexing by an adverse counsel. To avoid these difficulties, our author suggests that a written report be presented as the medical facts in the case, which can be deliberately prepared—where doubts can be stated and the favourable or unfavourable circumstances mentioned. He can thus avoid all imputations of being a partisan.

It is well known that physicians too often disagree in *opinion*, in courts of justice, as to the bearing of certain facts and as to the deductions to be drawn from them. This generally arises from the delivery of the testimony, *viva voce:* the opinion is delivered immediately, before the connection and bearing of facts, &c. can be examined. Often the discrepancy arises from the want of knowledge in one witness. *One is ignorant in comparison with the other.* Written reports would greatly obviate both of these sources of disagreement.

When however a difference actually exists the rule of law is applicable. "When a witness," says STARKIE, "testifies to a fact, which is wholly or partially the result of reason upon particular circumstances, it is obvious that the reasons of the witness for drawing that conclusion are of the most essential importance, for the purpose of ascertaining whether the conclusion was a correct one. And these observations apply with peculiar force to all questions of skill and science." Agreeably to this rule, all practitioners are not proper witnesses in all cases—sometimes an anatomist may be required; sometimes a chemist; or a physician; or a surgeon: for even a HUNTER had cause to regret that he had not given the subject of poisons more attention before he ventured an opinion in a court of justice.

Personal experience however not being always adequate, it is necessary and proper that *authorities* should be adduced and received. This privilege is accorded in our country and in England—although sometimes opposed: but, as observed by Dr CRELL, reading as well as experience makes a physician, neither is there "any reason why I should not quote the fathers of my profession in this case, as well as you gentlemen of the long robe quote Coke upon Littleton in others." We hope this example will be followed, and that the members of the medical profession will learn what is due to themselves and to their science, and be always prepared for defending those opinions which have been deliberately advanced. They cannot avoid the expression of *an opinion*, as has been supposed, without the appearance of ignorance, and unfortunately, they may be often cited in support of sentiments which they do not hold, for "a dexterous advocate," says Mr SMITH, "has a great advantage over any witness however learned and self possessed. He may be led into a train of admissions, the inferences from which are afterwards to be turned against him;" yet, by attending to the rules already given—especially by suitably preparing himself for such examinations and by a decorous respect to the opinions of his brethren and to the formalities of the court, the physician will always honour and exalt his profession, and thus publicly demonstrate the benevolent tendencies of a science devoted to the alleviation and destruction of human misery.

QUARTERLY SUMMARY

OF MEDICAL AND SURGICAL INTELLIGENCE.

I. ANATOMY.

1. *Organization and Use of the Spleen.*—In the Journal des Progrès, tome vi., is published a note from **Jules Arthaud**, which contains the following statement.

"Some months since, I was informed by M. **Strauz**, a naturalist, whose candour and intelligence are generally acknowledged, that in 1817 he examined, in the elephant which died at the Garden of Plants, by the aid of the microscope, the bands composing the fibrous net work of the spleen, and that he was not able to recognize in them the distinctive characters of the fibrous or vascular tissues. He opened many of these bands, of which a great number were a half line in diameter, and so far from finding them pierced by a canal, as he had presumed was the case, to his great astonishment, he discovered that they were filled with a pulpy substance, in all respects similar to the nervous pulp. This anatomical examination induced him to believe, that the spleen was a nervous plexus dependant upon the ganglionic system of the viscera: occupations of another species did not permit him to continue the examination of this important point. I have, however, made some researches to assure myself of the fact announced by M. **Strauz**, and the following are the results at which I have arrived.

"1. In the vertebral animals, the existence of the spleen is always connected with that of the nervous system.

"2. In the fœtus the spleen does not distinctly appear, until during the second month of pregnancy—the very period at which the ganglionic system of the human fœtus is first perceived.

"3. The spleen follows all the modifications impressed upon the nervous system by difference of age, the degradation of the inferior animals, and monstrosities.

"4. In genuine cases of acephali, the absence of the spleen is a constant fact.

"5. Those substances which stimulate especially the nervous system of organic life, act very powerfully upon the spleen, which becomes tumefied under their influence.

"6. The tissue of the spleen, which I have termed nervous, preserves, in a bath of pure water, the density which it had previously acquired by immersion in a mixture of seven parts of water and one of nitric acid; whereas the vessels which enter into the composition of the spleen soften and become putrid. To make this experiment it is necessary, first, to detach the fibrous envelope of the spleen, and by repeated washings to remove the blood deposited within the spongy structure of the organ.

"7. Numerous facts enable me to refer to an alteration of the spleen, an order of intermittent fevers already considered, by distinguished physicians, as appertaining to the class of neuroses.

"Finally, I believe that I am able to demonstrate, by experiment, and by facts drawn from comparative anatomy, that the spleen is nothing else than an *electric apparatus*, causing the blood to undergo a certain modification, the nature of which I shall make known in a memoir upon the spleen, which I propose to read very shortly to the Institute, and in which I shall give the outlines of a new theory of the functions of the nervous system."

2. *Hair.*—Heretofore, observes M. CUVIER, in a memoir read to the *Royal Institute of France*, at its sitting of the 8th September 1827, the hair has not occupied, in our classifications of the tissues of the body, that rank which appertains to it. It does not, as has generally been supposed, constitute an essential part of the skin; it has an independent existence and appertains to a system of organs, as remarkable, frequently, for its complication as for its development. This system may be associated with the cutis, and develope itself at different points within its substance; but even then it is not confounded with it, but preserves its distinct character. M. CUVIER considers the organic system by which the hair is produced as analogous to that of the *senses*, and even as constituting a part of the latter: the hair in a great number of animals being a very delicate organ of touch.—*Nouv. Biblioth. Med. Nov.* 1827.

3. *Structure of the Biliary Ducts.*—According to M. AMUSSAT there exist, in the parietes of the gall bladder and biliary canals, fleshy fibres; and in the cystic canal a spiral valve, the effect of which is, to cause the bile of the hepatic duct to ascend into the gall bladder, and to oppose the too sudden discharge of the cystic bile; the termination in a cone of the ductus choledochus, and its very contracted opening into the duodenum, favour this effect: finally, the duct of the pancreas opens always into the ductus choledochus, and not into the duodenum.—*Journ. Univer. des Scien. Med. Oct.* 1827.

4. *The Existence of a Canal in the Optic Nerve of the Human Fœtus.*—In the *Journ. für Chirurg. u. Angenheil*, Dr WEDEMEYER states, that he has observed successively, in many fœtuses of from four to seven months, that upon pressing slightly the globe of the eye, he caused to issue from the optic nerve, cut transversely, a portion of the vitreous humour. He also believes, that he has seen, in the centre of the nerve, an opening, indicated by a black point (the central artery?) and in some subjects a similar opening has appeared to him to exist on the surface of the retina. M. TREVIRANUS, to whom this observation was communicated, suspected that the pretended canal may have been artificially produced by the pressure applied in the experiment. Dr W. having, however, since repeated his observations, he submits them to the further researches of anatomists, in order that the question may be thus definitively decided. To perform the experiment, the eye of the fœtus, of from four to seven months, is to be selected: earlier, the optic nerve is too soft to permit the examination to be properly performed, and beyond this period, the canal, he suspects, will have been already obliterated.—*Bulletin des Scienc. Médicales, Sept.* 1827.

5. *Heart Exterior to the cavity of the Thorax.*—In the November number of the *Medical Repository*, Mr TUCKER relates the case of a fœtal monster, which led to no little embarrassment during delivery. On an examination of the mother per vaginam, there was found presenting, "a large fleshy tumour, of the shape of a heart, possessing a pulsatory motion, or a regular *systole* and *diastole*. I could not help concluding," observes Mr T. "that this organ was actually in the vagina. I also imagined that I could distinguish the auricles, and the larger vessels attached to the ventricles." Delivery was effected by turning, when to the operator's great surprize, what he had hardly been able to conceive could be *a heart presentation*, turned out to be so in reality! The fœtus appeared to be full grown, and there being a division throughout the chest and abdomen, the whole

contents of the two cavities were exposed to view. The display of the thoracic viscera arose from a separation through the median line of the sternum, which extended to the pubes; the edges of the recti muscles were reverted, as it were, and faced with a white, tendinous border. But the deviations did not end here. The right hand exhibited but one finger, and the left foot but one toe. *The umbilical cord made its exit on the back, between the scapulæ.*

Immediately on delivery, the child cried lustily, and lived two hours, during the greater part of which time Mr T. states that he had the heart in his hand, "and witnessed the vena cava returning the blood to the right side, and its reception on the left from the pulmonary veins. The aorta and pulmonary artery were also both distinctly seen, together with their actions." As all the abdominal viscera were out of the cavity, by simply turning them aside the descending aorta and the ascending cava were brought into view.—*Lon. Med. and Phys. Journ. Dec.* 1827.

6. *Malformation of the Œsophagus.*—Professor Rossi reports the case of an infant in which the œsophagus was completely closed above its cardiac orifice by a transverse membrane, the circumference of which adhered to the parietes of the canal. The infant lived near three days;—it had voided at several intervals meconium, but vomited every thing that it was caused to swallow.—*Archiv. General. de Medecine, Oct.* 1825.

7. *Malformation of the Bronchiæ with Closure of the Glottis.*—The same gentleman reports a case in which the glottis was completely closed by an accidental membrane; while the bronchiæ were obliterated at their origin by a cartilaginous septum placed transversely. This infant lived for some time after its birth, but with all the symptoms of asphyxia. During its life the movements of the heart and arteries were distinctly felt. The communication between the two auricles, of a very large size, remained free, and the fœtal circulation, thus continuing after birth, explains why the child was able to live for some time, and perform various movements of the limbs and lips.—*Ibid.*

8. *Transposition of the Ventricles of the Heart.*—M. Duges communicated to *the Academy of Sciences*, at its sitting of September 10, 1827, the following interesting case. In August preceding, there was brought to the hospital "*des Enfans trouvés*" of Montpellier, an infant, the whole surface of which presented a deep blue colour. It was supposed to have been about four or five days old —it died in a few hours from its reception into the hospital. After death the body, exteriorly, was of a deep violet hue. The only morbid appearance within the cranium was a considerable injection of the arachnoid membrane. In the thorax, the lungs were injected, but otherwise sound; a viscid yellowish serum was effused within the pericardium. The surface of the heart was of a violet colour. The abdominal viscera were found adhering together by means of a false membrane, yellow, soft, and floculent—the liver was of a brownish colour and engorged with black blood. On examining the structure of the heart, the auricles were found to be filled with blood, and preserving their natural situation and relations; their orifices were in their ordinary condition; but the ventricles were transposed, so that the left auricle corresponded to the right ventricle, which gave origin as usual to the pulmonary artery; and the right auricle to the left ventricle, into which opened the aorta and coronary arteries. In consequence of this condition of parts, the blood brought by the venæ cavæ to the right auricle was thrown by the corresponding ventricle into the aorta, which hence distributed, to the different portions of the system, venous in place of arterial blood; while the blood brought by the pulmonary veins to the left auricle was returned again immediately to the lungs by the corresponding ventricle and pulmonary artery. The ductus arteriosus was too imperfectly developed to remedy completely the consequences necessarily attendant upon such a malformation of the circulatory organ. M. Duges has found in authors only three examples of a similar deviation from the ordinary structure; these are all reported by Meckel in his "Re-

cherches sur les Vices de Conformation du Cœur."—*Journ. Gen. de Medecine, Oct.* 1827.

II. PHYSIOLOGY.

9. *Section of the Pneumo-Gastric Nerves.*—It being satisfactorily ascertained that a section of the eighth pair of nerves, on both sides, destroys the animal in a few hours, by paralyzing the muscles about the larynx, and thus causing asphyxia; we cannot properly determine, when death is thus produced, the real effects of the interruption of the nervous influence on the stomach, lungs, and other organs. M. Dupuy, of the Veterinary School at Alfert, in his expements, opens the trachea of the horse, by which means the animal is made to live from fifty to sixty hours. This gentleman has laid some of his experiments lately before the Medical Society of Paris, in which the effects of the pneumo-gastric section are shewn. The nerves were divided on both sides of a horse's neck, and portions cut out. Tracheotomy was then immediately performed. The animal was carefully examined at certain periods, and also bled before and after the operation, in order to ascertain the effects of the section upon the blood as well as on various functions. Two hours after the section, the functions of respiration, circulation, &c. presented no alteration. The animal continued to eat as before. In four hours, the breathing was accelerated—the blood of the carotid was now of a darker colour than before—the animal ate and drank, but deglutition seemed to be performed by a convulsive action, and liquids returned by the wound in the trachea. At the end of sixteen hours, the breathing was slow and deep—much mucus flowed from the wound in the trachea, and the food returned by the same aperture—the action of the heart is much weakened—the arterial blood is now nearly as dark as venous. At the end of twenty-eight hours, no material change had occurred. Forty hours from the operation, the animal had great difficulty in swallowing—the blood from an artery was quite black—the œsophagus was felt to be crammed with food—and the horse was comatose. In fifty-two hours, the breathing was stertorous, and he soon died. *Dissection.*—Nothing remarkable in the brain. All the parts forming the aperture in the larynx were red and swelled, so that the passage was almost closed. The mucous membrane of the larynx and trachea was red, and otherwise discoloured, but these were considered to be cadaveric phenomena. The lungs were inflamed and hepatized—the bronchiæ filled with mucosities. The substance of the heart was much softened, and its cavities filled with black blood. The œsophagus, as well as the pharynx and nasal cavities, was filled with alimentary matters. The stomach was distended with food almost dry, and adherent to the mucous membrane of the organ, which was of a red colour. No chyme existed in any part of the intestines. The liver was enlarged—and there were several large black spots on the spleen. From the above and other similar experiments, it is evident that section of the pneumo-gastric nerves stops the sanguifactive (arterializing) process in the lungs—paralyzes the œsophagus—and puts an end to the secretion of gastric juice, and, consequently to digestion, in the stomach. The experimenter found, in this and several other cases, that a peculiar effect is produced on the spleen by these operations—namely, that its blood is changed, and *capable of producing a disease* in other animals, when introduced by a puncture, which affects their spleens and causes death. The same was found to be the case with the spleens of animals living in marshy countries where intermittents prevail.—*Medico-Chirurg. Review, January* 1828.

10. *Regeneration of Nervous Tissue.*—M. Prevost in 1825 divided, in five new born kittens, the left pneumo-gastric nerve, removing in each case a portion of the nerve about six millimétres in extent. The animals did not appear to be affected by the operation, and the wounds healed very rapidly. A month subsequently, he divided in one of the kittens the right pneumo-gastric nerve. The

animal appeared to suffer; it frequently gaped and uttered a hoarse cry. Respiration was slow and impeded, and in about fifteen hours after the operation death took place. The two ends of the nerve, divided a month previously, were swollen, directed towards each other, and the intermediate space was filled up with a white tissue nearly similar to thickened and disfigured neurilema. This tissue, it appeared, did not transmit the nervous influence. A month after, the right pneumo-gastric nerve was divided in another of the kittens, and in thirty-six hours after the experiment the animal died. The circumstances of the nerve of the left side were similar in this case to the last. Two months later, the operation was performed on a third kitten now four months old; it was but little affected, and two days after was quite well. M. PREVOST operated next on a fourth kitten, the only one remaining, the fifth having been destroyed accidentally; the experiment was marked by the same result as in the third instance. After fifteen days, the *right* nerve was again divided in the first of the two surviving cats, immediately above the situation of the previous incision. The animal bore the operation well,—respiration was not impeded. Thirty-six hours after, the nerve of the left side was again divided, immediately above the first section; in about thirty hours the animal died, as though both nerves had been divided at the same time. In examining by dissection the divided trunks, M. PREVOST found that the upper and lower extremities of the left nerves were united in both animals by a white hard substance or swelling, on which the neurilema appeared to be thickened. On removing the neurilema, and pressing the remainder between two plates of glass, he observed, by placing it beneath a microscope, that from the superior trunk nervous filaments extended, through the interposed substance, to the inferior trunk; thus indicating that the integrity of the nervous tissue was restored. In the recent cicatrices, he could not discover any of these nervous filaments. From the foregoing facts, M. PREVOST deduces the following conclusions.

1. When a nerve has been divided, it is not sufficient for the restoration of its action, that the two portions be united by a white, cellular, interposed tissue, for this soon takes place.

2. It is necessary, that through this uniting substance nervous filaments should shoot out, and extend from the superior to the inferior portion.

3. This prolongation of nervous matter does not appear to take place until after some considerable time. The prolongations are not arranged in close contact as in the natural continuity of the nerves; but on the contrary, they separate from each other, as though their passage through the interposed substance had been made with difficulty.—*Bulletin des Scien. Med. Sept.* 1827.

11. *Respiration of the Infant when only the Head is born.*—There is a memoir upon this subject, contained in one of the numbers of "*Gemeins. deutsche Zeitschrift für Geburtskunde*" for 1827, by professor RITGEN. Causing the mother to lie upon her side at the moment when the head of the infant is about to pass out of the vulva, he observes, that "when the head is born and a new contraction of the uterus is about to take place, the thorax of the infant will be seen forcibly to elevate itself, while the mouth and neck will present the movements of a first respiration, which latter may become even sensible to the ear. When the uterus commences to contract upon the fœtus, inspiration ceases, and the air inspired is expelled. If the fœtus is not born during the contraction, the inspiration is invariably repeated with similar efforts: the same takes place if the contractions of the uterus cease for a certain time; and most generally in this case it is also followed by a somewhat noisy expiration, and frequently very distinct cries are heard. Occasionally the eye-lids open and close, especially under the impression of a vivid light. There are, however, many modifications of these phenomena in different cases."

If the foregoing statements be correct, our readers will easily perceive their great importance in reference to medical jurisprudence; for it will then be evident that an infant may have respired when only the head has passed out at the vulva, and yet before the trunk is expelled, may perish of asphyxia, without the mother being in any manner accessary to its death. Death by asphyxia may under such circumstances be occasioned in different ways: by the introduction into the infant's mouth of foreign matters, as blood, the liquor amnii, fæces, &c. or by any mechanical obstacle preventing the continuance of respiration.—*Bulletin des Scien. Med. Sep.* 1827.

III. PATHOLOGY.

12. *Phlegmasia dolens.*—Dr M. ALLONEAU, of Thouars in France, has offered for the Athenæum of Medicine a paper on the above mentioned disease, which appears in a bulletin of that body, inserted in the Nouvelle Bibliothèque Médicale for November, and is followed by a regular report on the memoir, by M. GOUPIL, the author of "Exposition de la Nouvelle Doctrine Medicale, &c." reviewed in our 8th number, who is one of the secretaries of the Athenæum. Dr A. formed his observations principally on two cases; of one of which he gives us the symptoms, and of the other the appearances on dissection.

The first patient was 27 years of age, and of a lymphatic temperament. She was favourably delivered, Sept. 1, 1822, and suckled her infant for three days, when it died. Two days after its demise the mother was attacked with puerperal peritonitis accompanied by delirium. On the 15th, after an antiphlogistic treatment, she was free from fever and appeared decidedly improving, when she was seized with a long chill followed by stupor, coma and delirium, and the febrile paroxysm lasted 16 hours. In a second paroxysm trismus supervened, and in a third the activity of the senses was entirely suspended. Twelve grains of the sulphate of quinine were given in one day, and under a continued use of this remedy the febrile irritation gradually wore off. On the 17th, however, new symptoms appeared. At the end of one of her attacks the patient complained of a violent pain in the left iliac region, and subsequently in the groin, the thigh, and the leg. All these parts soon became the seat of a swelling, which observed the same order of succession as the pain. The finger, moved along the inner side of the member, distinctly made known the sensation of a stretched cord, which was studded with violet coloured swellings very painful to the touch. Throughout the whole duration of this phlegmasia, the patient was a prey to mental depression and distress, which has been recorded by authors among the symptoms of phlegmasia dolens. Great benefit was derived at first from antiphlogistic treatment, and subsequently from compression combined with resolvent frictions and vapour baths. Thirty leeches (presumed of large size) were repeatedly applied, and calomel, it is said with much advantage.

This interesting case is followed by some highly curious reflections upon the nature and connection of the three diseases which so rapidly succeeded one another. The cerebral affection which exhibited itself under the intermittent type is attributed by the author to a repetition of the phlogosis of the peritoneum upon the tunica arachnoidea. He cites on this point a case already published by him, in which a gastro-enteritis was followed by a comatose intermittent fever.

M. ALLONEAU thinks that the disease called phlegmasia dolens consists in a phlogistic irritation of the lymphatic system, and of the cellular substance which lines the skin and separates the muscles. He passes in review several opinions emitted by authors; as those of Dr HALL, who considers it a rheumatism, which he promptly rejects. M. GOUPIL, however, does not agree with him where he entirely rejects the opinions of MM. RIBES and BOUILLAUD, which appear to be nearly the same with that of Dr DAVIS, viz. that the swelling is an œdema, produced by an obstruction to the free return of blood by the iliac veins. These appearances have, according to M. G., been too often found to admit of our rejecting them as causes of the disease; nor does he see any reason why these should be considered incapable of producing a subsequent phlegmasia of the cellular texture of the thigh. M. ALLONEAU thinks that these causes must be rejected in all cases which recover; as he presumes that wherever the iliac veins are obstructed by clots of blood, pultaceous matter, &c. the consequence must be inevitable death. M. **Goupil**, on the other hand, conceives that phlebitis of these veins may easily exist to an inferior degree, without at all necessarily causing death, and refers for proof of the correctness of this opinion to the publications of MM. **Breschet**, **Bouillaud**, and others. He also thinks that great countenance is lent to the idea that phlegmasia dolens commences by inflammation of the *nerves* of the lumbar plexus, where they pass over the brim of the pelvis, by the fact, that one of the earliest symptoms is violent pain in the pelvis, accompanied by numbness of the thigh. He grants that there is, as M. **Duges** remarks, a very great resemblance between the symptoms of phlegmasia dolens and those of neuritis or inflammation of nerves, as these are described by the accurate M. **Martinet**.

Our readers will be struck with the resemblance between many of these remarks and those of our friend, Dr R. M. **Huston**, inserted in the number of this Journal for October last (Vol. IV. p. 237), and continued in the present number. The paper of M. **Alloneau** was published in November; so that no intercourse whatever could have taken place between them. This circumstance affords a striking instance of the correctness of the fact, that improvements and thoughts belong to the age, rather than to individuals; and that when information generally diffused has reached a certain point, the next advance will occur to more than one at the same time; and if the first be too indolent to record it, will devolve to a successor.

13. *Vaccination and Small Pox.*—Dr **Rublock**, of Dresden, has published a pamphlet on these subjects; and his opinions command interest from the present state of the professional and public mind in relation to these diseases. He remarks that, although physicians unquestionably erred in supposing that vaccination possessed the power of entirely and absolutely preserving men from the small pox, this is in part to be explained by the fact that there prevailed no general epidemics of exanthematous diseases from 1802 to 1824, accident thus favouring the continuance of the deception. A tendency to these was felt in 1817, but they have particularly multiplied since 1820. Dr R. concedes that the vaccine can afford protection against variola, but only for a *limited time*. Nevertheless, this practice does not cease to be a most precious resource in the hands of the physician, because it either averts or modifies and mitigates the variola. Dr R. has seen a patient in his own practice twice affected with small pox; and in another instance, he has seen a girl affected with the latter disease, twelve years after being vaccinated (successfully we presume).

Dr R. has met with great success in treating small pox. The remedies with which he commences are emetics; and when a *putrid character* developes itself he places great dependence on the following prescription:—Impalpable powder of cinchona, one scruple; cream of tartar, fifteen grains; powder of canella, one grain:—M.—*Bulletin des Sci. Med. Oct.*

14. *Inoculation and Vaccination of Sheep.*—Vide Vol. 3, p. 179, of this Journal, Jan. 1827, for an account of vaccinations of various animals.—M. D. H. **Vander Meer**, surgeon of Dragten, in Holland, has inoculated and vaccinated a number of sheep. His vaccinations all failed, although some of them were frequently repeated. An eruptive disease, recognized as the small pox, had appeared among the flock; the animals appeared dull, would neither eat nor cry, and hung their heads in a stupid manner. A numerous crop of pustules appeared, differing from each other in different parts of the body; the greater portion resembling those of the small pox in man, while others were as large as a piece of *ten sous* (say a ten cent piece) and oval or angular, and those situated around the mouth were generally small and dry.

With the matter of these pustules, Dr **Vander Meer** succeeded in communicating the disease by inoculation. He found it become far less dangerous; not having lost one out of 200 on which he operated, and none having appeared much indisposed, with the exception of a single individual, which lost an eye. —*Bulletin, Sept.*

Dr H.—C. Medenbach de Rooy, of Hykerk in Holland, has made a number of experiments of the same kind. He found the inoculated small pox more fatal than did Dr Vander Meer. Six sheep were affected by vaccination. On the fourth day, little tumours, more or less inflamed, were remarked; which dried, and in the course of the next two days formed crusts, one of which was the size of a sou piece. Both the distinct and confluent forms of small pox were distinctly characterized in the epidemic which gave rise to these inquiries.—*Ibid.*

15. ***Modified Small Pox, produced artificially among Sheep, for purposes of Protection.***—A still more curious course of experiments is that conducted by M. Pissina, of Moscow, in conjunction with M. Libbald, of the same place. Mr P. conceived that, by a long course of successive inoculations, he could reduce the virulence of the small pox matter, so as to generate, artificially, a substance capable of filling, among these animals, the same character as vaccine among men. Finding that the small pox was greatly weakened in its severity by being inoculated, he selected matter from a mild case, and inserted into fourteen or fifteen other individuals. Among these eventuated cases of very diversified severity, the majority, however, milder than the parent disease. From among them he selected the mildest case, and again inoculated fourteen or fifteen more; repeating this process five or six times. In this course of experiments, the eruption and fever grew gradually milder, until at last they entirely disappeared, with the single exception of "a mild eruption on the part inoculated." He now had a disease standing in the same point of view as the vaccine in the human species; and with this Messrs Pissina and Libbald inoculated upwards of *one hundred thousand sheep*, in the great Russian estates, with gratifying success; the animals soon recovering, with the exception of those which lost their lives from some previous disease, or from accidental causes.

The disease thus propagated runs its course more slowly than the natural small pox; occupying from twelve to fourteen days in coming to its greatest degree of maturity, and ceasing in about a month.

We attach a peculiar importance and interest to this narrative; as it affords so very strong a confirmation of Dr Jenner's theory, that vaccine is a degenerated species of the small pox. Here, for the sheep race, we have a disease resembling vaccine, generated artificially under human inspection, and by an ingenious process much resembling that by which horticulturists have produced our finest fruits from stocks of a very different character. The narrative is published in the Moscow Journal of Agriculture, after receiving the approbation of the Society of Domestic Economy in that capital; and is analyzed in the Bulletin for October.

16. *Vaccination in Turkey.*—In the January number of the London Medical and Physical Journal, are given the details of an interesting occurrence, presented by M. Baron, author of the new and valuable Life of Dr Jenner; we mean the vaccination of three infants of the Grand Seigneur's family, by Dr Auban, a French physician now resident upwards of thirty years in Constantinople. Two other young females were vaccinated at the same time—all within the redoubted precincts of the Seraglio! The processes succeeded admirably; and the Doctor received a splendid present for achieving what, a very few years before, it might have cost him his head to suggest. This is considered one of the traits of genius of the new emperor; who has adopted so many improvements from his western neighbours.

17. *Mercurial Tremors.*—M. A. Colson, of Noyon, physician and surgeon to two hospitals in that place, has published a memoir on the above subject in the *Archives.* He notices the omission to mention this affection in a long list of authors, terminating with Drs Joseph Adams and Matthias; and ascribes it, in the greater number, to their disbelief of the injurious effects of mercury. In the

work of SAUVAGES, however, and in a paper by Dr WILSON in the Edinburgh Medical Essays, he finds the affection mentioned as being produced by mercurial frictions; and by Dr PEARSON, it is set down as a symptom of his "mercurial erethism;" (Anglicé, *irritation;* Vide Lexicon.) M. COLSON conceives the tremors to be a mere *epiphenomenon*, an accessary symptom. M. MERAT, in the Dict. des Sciences Médicales, states that tremors are produced by mercurial frictions; but M. CULLERIER, in another volume, conceives that it is only in the metallic or vaporized state that mercury has this effect.

M. COLSON attended a girl, affected, it is supposed, with the venereal disease, who was taking the antivenereal liquor of VAN SWIETEN; which had produced a febrile gastritis. In feeling her pulse, he observed a subsultus tendinum, unaccompanied, however, by any of those other symptoms which might lead him to expect such a phenomenon; and, on further investigation, he found that she was subject to muscular twitchings in both the superior and inferior extremities. It appeared that these symptoms had been coetaneous with her employment of VAN SWIETEN's liquor, which is a solution of deuto-chloride of mercury (corrosive sublimate). Since that period he has seen six other cases; which he has preserved in writing, and inserted in his memoir.

All his six patients were females. Dr C. can give no reason for this fact; and believes that men are also liable to it. He next considers the question whether there be any greater liability to the disease by exposure to mercurial fumes than by the medical use of the same metal. In two of his cases the tremors were owing to the use of VAN SWIETEN's liquor; and in the remaining four, to mercurial frictions. He conceives that the symptoms depend, exclusively of idiosyncrasies, upon the mere quantity of the poison absorbed; and that it is matter of entire indifference whether it be introduced in vapour through the organs employed in respiration, or in the forms of oxydes, salts, and chlorides, by the skin or digestive apparatus.

The author calls our attention to the fact that, in two of his patients, individuals who had never undergone syphilis, the pains possessed the characteristic trait of *exacerbations during the night*. He compares this with the remark of authors, that *syphilitic* pains are distinguished by these exacerbations; and leaves us to form our own inferences. It is incorrect to describe mercurial tremors as confined to the limbs; as they also affect the trunk. Of the *quantity* of mercury which will produce these affections, it is extremely difficult to judge: it will greatly depend upon the activity of absorption in the individual exposed, and, we will add, upon his nervous susceptibility. In one case, a few grains of deuto-chloride of mercury were sufficient; while, in others, more than twenty were required: in another, ten or twelve drachms of mercurial ointment would occasion them, and in a fourth, not less than three ounces and a half. Mercury should never be considered as an agent liable to produce but a single diseased derangement at a time; the presence of one morbid affection from this cause by no means excluding another. Dr C. has seen tremors combined with excessive salivation, gastritis, amenorrhœa, &c. The author compares them with those produced by tea, by the abuse of spirituous liquors, &c.; and remarks that mercury, in like manner with these substances, can either produce acute tremblings of short duration, or, by a continued application of the poison, may occasion their assuming the chronic form. The duration of the tremors, after quitting the use of mercury, varied in the cases observed by him, from fifteen days to eight months. In those instances where the mercury has not been used for a long period of time the principal indication of treatment is the *omission* of the poison—*sublatâ causâ tollitur effectus*—but where the disease is of longer duration, and particularly where the patient is highly charged with mercury, remedial means must be resorted to. Of these, the most successful were the warm bath, a milk diet, and sudorific ptisans (probably containing sarsaparilla), castoreum, assafœtida, and opium. M. C. concludes by suggesting the use of purgatives; which, as he says, will make a derivation; but, as he has not shewn that the disease consists in an inflammation of any organ, we are not aware from what quarter derivation is to be desired.

18. *On Method in the Study of Medicine.*—Notwithstanding our most earnest attachment to matters of fact, which we consider the only foundation and principal component material of real science, the observations of M. **Buchez** upon the necessity of method, and a just theory, are so apposite and so valuable, that we cannot resist the temptation of noticing them. This physician is author of several eloquent essays which have appeared in the new Journal des Progrès, &c. a work which adds to an unrivalled collection of valuable matter the additional recommendation of being, like our own, the property of the profession. Nothing, says Dr **Buchez**, is more common than to hear declarations of an exclusive attachment to fact and to experience, and this perhaps offered as a reason for neglecting those writings which are so frequently stigmatized under the appellation of *theoretical.* Now, has any of those systems, which have gone to the ground amid the changes of past ages, ever pretended to stand independent of facts? Have they not all professed to be founded on the most philosophical view of facts which was then to be obtained? And yet they have perished! One was erected on the doctrine of atoms; another on that of the four elements; a third on mechanical philosophy; a fourth on salts, sulphur, &c. &c. And were not all these the result of the observations of the day, misunderstood no doubt, but explained in the best manner of which philosophers were then capable?

When a man undertakes to explore any thing, it is a principle in human nature that he must, of necessity, hold some end in view—entertain some doctrine to be established or refuted; and wherever courses of experiments are entertained for the purpose of achieving exact truth, we may always discern the operation of a ruling opinion of the age. Even with those who are but little versed in the literature of science, and who are acquainted with the observations of their predecessors only by accident, or by hearsay, we can still discern the operation of theory, and frequently of the most crude hypothesis, in every thing they do. It is, in fact, precisely those who decry theory that are most completely under its influence; they disavow the established opinions of the times, but form themselves, in private, individual doctrines of their own. And these again are generally founded upon an imperfect knowledge of the subject, derived either from casual reading, or, as in very many instances, formed from the crumbled ruins of what had been the popular theoretical dogmas of the last age. A ruling idea, as M. **Buchez** styles it, appears to govern in every æra of science, and imprints its character upon every the most independent mind. There is in the atmosphere of science a sort of equipoise, somewhat similar to that which prevails in its physical prototype; the freedom of communication between remote physicians preparing a great number of minds at once for the same discovery, and suggesting the same hint to them all. Dr B. instances, as examples of this kind, the simultaneous inquiries and triumphs of M. **Rolando** in Italy, and M. **Flourens** in France, with respect to the spinal marrow, cerebellum, &c.; those of MM. **Magendie**, **Bell** and **Bellingeri** on the nerves; and those of Dr **Physick** and M. **Dupuytren** on the cure of artificial anus.

We should then be careful before we pronounce useless the theories, however whimsical, of ancient times. They served to generalize facts, and enable the human intellect to retain them; they were part of the machinery necessary for the prosecution of science, and in reality contributed essentially to those very advancements which soon effected their own downfal.

Upon the same principle too, M. **Buchez** denounces, as useless, all detached facts which have not been observed with a reference to some preconceived and perhaps general principle. The objection is continually made to numerous records of medical cases, that they are "imperfect." All human observations are imperfect; and the real fault is that those in question are not adapted to any theory which they may serve to confirm or correct. The use of theories is to classify facts, and to preserve them in the memory; furnishing at the same time an approximative estimate of the truth in any intermediate case, not provided for by an exact observation; requiring for its use all that precaution which should be suggested by a consideration of the important charge of health and life which is laid upon the physician; but frequently furnishing the only light which we possess for our guidance.

In the remainder of Dr Buchez's very interesting paper, he takes a wider range, and embraces materials which we apprehend would be less to our present purpose. He analyzes the principal leading medical systems at considerable length. Neither analysis nor synthesis are, according to him, entitled to the epithet *method* of medical study; they are only partial modes of operating in the various methods, and should both be employed alternately, according to the nature of the materials already known and the point into which it is desirable next to inquire. No scientific research appears to him to be complete unless both analysis and synthesis be twice exerted upon it; the first time to make the discovery and joint it into its proper place in human science, the second time to correct what has been done. There appear to him to be only two general methods of inquiry: the conjectural and the positive. The latter is the one best adapted to our use at the present time, and can only be founded upon a most enlarged course of study, similar in its character to that which placed Bacon at the head of modern science. Whether it be necessary or likely soon to become so, to quit the present mode of accumulating facts for another one, he intends to examine in a future essay. He observes in the course of his discussion, that to propose for one science the mode of study found successful in another, is not true philosophy. The proper course of investigating each science is only to be extracted from the materials presented by itself.

19. *Gastro-enteritis.*—The restricted bounds of this subdivision of the Quarterly Summary have never appeared to us competent to review the current pathological researches in an adequate manner. To convey a sufficient idea of the various investigations which are going on with regard to the mucous membranes of the digestive tube alone, would easily fill our space; and for this reason we have trusted to reviews for the progressive development of much that we should otherwise be gratified to see here. No work upon this subject, however, having been laid out for review, the necessity of noticing it more at length in this summary becomes more imperative.

Dr Broussais continues to publish, monthly, a series of invaluable cases, observed, we understand, by himself. We extract from the last number of his admirable Journal, a case of *general gout, gastro-duodenitis, arachnitis, and pleurisy, with effusion.* An officer of marines, aged 45 years, had been affected with coxalgia, terminating by spontaneous luxation. He was seized with acute rheumatism, accompanied by perpetual tremblings or twitches of all the muscular fibres which could be examined. Acute pain in the muscles, red tongue, pain in the right hypochondrium, and a swelling of the liver, were also present. Bleeding, and leeches to all the pained parts, emollients, narcotics, and regimen, removed the rheumatic pains in three days. A slow fever continued, with some symptoms of gastro-duodenitis, and intermittence of the pulse. Severe diet, and demulcents were directed. The tumour of the hypochondrium had now almost disappeared; there was no cough, dyspnœa, or delirium. The patient shewed a tendency to stare or gaze; disliked conversation, stopped at the first few ideas suggested, and replied in few words; he exhibited disinclination for liquids, amounting to a positive disgust, every other day. Next, the patient complained of feeling his heart beat in the right side, twenty-one days after the commencement of the disease; when to the great surprise of the medical attendant, the whole left side of the chest was found to be incapable of giving any sound when struck. A totally unsuspected pleurisy had completely filled the right pleura with fluid. In six weeks, the patient exhibited a quiet delirium, and sunk, without any violent struggle, the next day.

Dissection showed a duodenitis, with ulceration, near the pylorus, and an enlargement, and a yellow, and what the French call, a fatty condition of the liver (*foie gras*). No one, however, anticipated the amount of disease to be discovered in the cavity of the head. The arachnoid was of the extraordinary thickness of a line; and had become opake, gelatinous, somewhat tough, and incrusted with white granulations. The judgment so unexpectedly formed of the thorax was found correct; a great deposition of pus having completely flattened (*atrophié*) the lungs, and exhibiting abundant evidence of a pleurisy.

20. *Ecchymoses of the Skin, with œdema and gastro-enteritis*, apparently kept up by the latter; by Dr Ollivier, of Angers, in the October number of the Archives. A stout female child, three years of age, which had generally enjoyed good health, dined with a good appetite, and then for the first time complained that she could not stand, and that her legs were painful. From this time, during upwards of a month, she was subjected to a diversified series of symptoms, which were met with the persevering attentions of her physician, and with alternate success. We will not follow the detail. Large violet-coloured patches appeared in various parts of the body, and were re-excited by the slightest cause; such as the pressure of a garter, the act of scratching, &c. Beneath and around them were produced large patches of œdema. In three days, pain in the belly came on, and it frequently recurred during nearly the whole remaining period of her illness; frequency of pulse (120 . . 130), heat of skin, restlessness, exacerbations at night, &c. had existed from the commencement, and characterized the whole disease. In eleven days, urticaria appeared, which disappeared in the following day, leaving violet-coloured ecchymoses in the situation of the patches. In thirty-two days, the pains in the abdomen began to subside; and in about forty days, had entirely ceased. The œdema and ecchymoses continued to appear occasionally for some time longer. The appetite had returned, the nights were better, and every thing indicated established convalescence, when a severe relapse took place, without any discoverable cause. Under diet, emollient enemata, and diluting drinks, this was, however, recovered from; and, after another more transient relapse, the child eventually was restored to health in about six weeks from the commencement of the indisposition.

The *treatment* found so beneficial consisted principally in gentle purging by castor oil, emollient and occasionally anodyne enemata, some of them having the addition of half an ounce of mercurial honey,—oily embrocations to the abdomen, cataplasms in the same situation, seat-baths (bains de siége), with other warm bathing, gum water acidulated with lemon juice, gooseberry water and other demulcents, leeches to the anus, and a very strict adherence to an unstimulating diet.

We have inserted the above as an example of the association of gastro-enteric irritation with this very singular affection, the *purpura hæmorrhagica* of Dr Willan. It may serve to exhibit one of the varieties of connection, causative, consequent, or accidental, between inflammation of the mucous membranes of the stomach and intestines, and irritation in various other parts of the body. At the same time it furnishes an interesting point of comparison with the curious case presented by Dr R. M. Huston, in our second volume, p. 24.

In the November number of the Journal Général, occur two highly interesting cases, by Messrs François and Sandras, from the practice of M. François, which we omit, as they are more appropriate under another head than the present.

21. *Mania* often arises *from chronic gastro-enteritis*, as is remarked by many modern writers. M. A. L. J. Bayle has inserted, in the Revue Medicale of last year, two memoirs, to which he promises the addition of a third, on the mutual influence of mental diseases with those of the gastro-intestinal tube. The first and second memoirs contain a series of cases, adapted to demonstrate the origin of mental derangement from the above-recited causes, and to exhibit certain peculiarities in the symptoms, including the delirium. The object of the third is announced to be to exemplify the influence of mental diseases in the development of chronic gastro-enteritis.

When we consider the severity, distressing character, and frequent obstinacy of continuance, which belong to mental maladies, and add to these the frequency, and ruinous consequences to human comfort, of hypochondria and dyspepsia, with the unquestioned and hourly mutual influence which the mind and the digestive organs exert on each other, we will readily agree that there hardly exists a more interesting branch of medical inquiry. If space permitted, we should be highly gratified by the pleasure of analyzing Dr BAYLE's whole list of cases. As it is, we shall copy the titles of the three inserted in the second essay.

These are—*Case* 1. Abdominal pains, attacks of mania, subsequently melancholy, with paroxysms of agitation, pains in the epigastrium, refusal of food: soon after, *fear of poison*, diarrhœa, rapid emaciation. *Dissection*.—Some traces of arachnitis; gastric mucous membrane of a reddish-brown colour, that of the intestines red and ulcerated.

Case 2. Habitual distress and pains in the epigastrium; white tongue, fever and sweats; the taking of five drastic pills, called *Clérambourg's*, followed by alarming symptoms, and soon after by a violent delirium, with fear of poison and refusal of food. After several attacks of mania followed by copious perspirations, on the comparatively calm days; continuance of the fever, redness of the tongue, and diarrhœa: soon after, recovery.

Case 3. Hereditary predisposition; masturbation; epigastric pains, which soon became more severe; fever; the use of fifteen grains of ipecacuanha and two of tartar emetic, followed by an augmentation of the gastric symptoms, and soon after by a settled mania: and other cases.

The practical precepts, beautifully deduced from these by Dr BAYLE, possess the greatest value; and we shall endeavour to present a sketch of them in our next number.

IV. PRACTICE OF MEDICINE, THERAPEUTICS, AND MATERIA MEDICA.

22. *Belladonna as a Preventive of Scarlet Fever.*—The German physicians express increasing confidence in the prophylactic virtues of this medicine in scarlet fever. The following directions are given for its administration—three grains of the extract of belladonna are to be dissolved in an ounce of water, with a small quantity of spirit of wine. As many drops of the solution are to be given, twice a day, as the patient has years of age. To protect the constitution against the contagion effectually, the remedy must be continued for at least eight days. From idiosyncrasy, the belladonna occasionally fails in rendering the patient secure against scarlatina. It has appeared also, that some epidemics are less under its control than others. Additional testimony on this subject is furnished by the results of Dr VELSEN's practice. During an epidemic of scarlet fever in the town of Cleves, the belladonna was administered in six weeks to 247 patients. Out of this number only thirteen contracted the disease. Four children had taken the remedy irregularly; one child had taken it regularly for fourteen days; another had taken it eight days; and seven employed it only forty-eight hours. Of these, one of a debilitated constitution died. All the others had the disease very slightly in comparison with those patients who had not taken the belladonna. The following striking proof is worthy of notice. A man, the father of four children, was attacked with the prevailing epidemic after having visited a friend who was confined to his bed with the same disease. His wife and children, the youngest three weeks, the oldest four years of age, took the extract of belladonna regularly in the form and doses above mentioned. Although they continued to live with the patient night and day in a small and ill ventilated apartment, they all escaped the disease.—*London Med. and Phys. Journ. Jan.* 1828.

23. *Cure of Nasal Polypi.*—Dr PRIMUS, of Babenhausen, asserts that the saffronized tincture of opium (of the Prussian pharmacopœia) possesses the property of gradually destroying nasal polypi when applied to them. Some cures which have been thus effected have already been published, and a striking case occurred in January 1826. A man, forty-six years of age, had one in

each nostril. The tincture was applied several times a day to the bases of the polypi by means of a small hair brush or lint roll. In eight days the tumours had assumed a paler appearance, and lost a little in volume; a serous secretion from the nose, which had existed for a long time, was diminished and the pituitary membrane had acquired a more lively tint, as if in a sub-inflammatory state. Under the use of the application the tumours continued to decrease, and at the end of three weeks they had entirely disappeared.—*Med. Chirurg. Zeitung.*

24. *Glossitis.*—Two cases of this disease are given in the form of hospital reports in the January number of the *London Medical and Physical Journal.* The first was of a man aged fifty-five years—the complaint two days in duration—bowels costive—pulse seventy-eight. Two applications of leeches, sixteen each time, to the angle of the jaw on successive days—purgative enemata—laxative draught and blisters behind the ears were the successful remedies. Patient dismissed cured after being nine days in the house.

The second case was of a female aged thirty-two, married but childless—pulse 100, full and hard; bowels costive; face somewhat flushed.—Relief was obtained by two bleedings each of ℥xvii.; cathartic enemata; leeches twice to the angle of the jaw; blisters along both sides of the lower angle of the jaw, to be dressed with savine ointment; cathartic after the patient could swallow, which produced several copious dark stools. After relief from the glossitis, "she remained for a fortnight with inflammation of the right tonsil, which in spite of the active measures employed went on to suppuration; the digestive organs becoming seriously deranged, with bilious vomiting. These, with many other interesting cases of various disease, are drawn up by Mr ALEXANDER RAINY, senior pupil in the Aberdeen New Dispensary.

25. *The Manna Gum Tree. Manna Eucalyptus.*—The trees blossom from November till May. In those and the intermediate months, the manna falls, the weather being hot and dry. The quantity of manna depends upon the number of flowers which the trees and seasons produce, as the manna proceeds from the flowering cups which are full of honey. These cups become the seed vessels; they grow very thick on the tops of the branches, and form, with the cups, the distinguishing character of the genus, as named by the French botanists. The flowers are much thicker on this than they are on others of this genus that I have observed which abound in New Holland.

The flowering cups, or seed vessels, being filled with this sweet juice, as the wind gently moves the branches, it falls on the leaves—these become inspissated and dry by the heat of the sun, and fall to the ground in white lumps of various shapes and sizes. It sometimes falls so abundantly as nearly to cover the ground under some of the trees. The ants devour it very fast, and they are always very numerous under the trees—probably it is to them a delicious food.

The manna gum tree is, when in full growth and in rich alluvial soil, a very beautiful tree, affording in the hot season a very agreeable shade. It is of a large size, and I have seen it, when full grown, five feet in diameter at the butt, and of considerable height. It sheds its outer bark, which peels off throughout the year. The bark is of a bluish white, the foliage of a very dark green, very thick and pendent on the tops of the branches. The wood of this species of eucalyptus is remarkable for its resistance to fire, probably from the saccharine nature of its sap, and in a state of decay it becomes arid.—*Australian*, copied into the *London Med. Reposit. Dec.* 1827.

26. *Gastro-enterites caused by the emetico-cathartic of Leroy.*—Of seven hundred cases of gastro-enteritic disease caused by the secret distribution of this medicine to the soldiers of the royal guard at Versailles, twenty-seven died. Autopsic examination of these latter shewed inflammation of the mucous membrane of the stomach, duodenum and ileon, but especially in the vicinity of the pylorus. This membrane was often found ulcerated in several parts. In many subjects the arachnoid was thickened, and infiltrations from it were found in the ventricles, the basis of the brain and the spinal canal. These accidents happened

in 1822, and are recorded by Dr Le Noble, physician to the hospital at Versailles. Dr Boisseau, who made a report on this memoir to the Academy of Medicine, points out the difference between gastro-enterites brought on artificially or by irritating or acrid ingesta, and those occurring epidemically, in the much greater curability of the former.—*Archiv. Gen. Nov.* 1827.

27. *Castor Oil a Cure for the Ring Worm.*—We read in the *London Medical Repository and Review* for December 1827, that a gentleman had been subject to the ring worm, which had long resisted all the appliances external and internal of the regular faculty, and he was so far from being relieved, that the complaint became worse and worse—insomuch that he was induced to make trial of a remedy suggested by a Parsee boy in his service. This consisted in the external application of castor oil, from which immediate relief, and in no long time, a perfect cure, was experienced. An officer of high rank, who had suffered still longer, and more grievously, under the same complaint, was persuaded to try the same remedy, and found in it a speedy and perfect cure. He had been in unceasing misery for three years. He found sensible relief in a few hours, and was cured in three days. Several more obscure persons were cured in like manner. It is not mentioned how often, nor for what length of time, this application was made; but a little discretion and good sense will supply this omission.

Our readers will remember the method of curing the itch adopted by professor Delpech of Montpellier, and reported in this Journal for October 1827. Olive oil was there stated to have exercised all the controlling effects on psora which castor oil is said to have done in herpes.

28. *Sand Baths.*—The use of this kind of baths is, we are told by Desgenettes, of Arabian origin. Solano di Lucca introduced them into Spain, and Fouquet among the French has lauded them in scurvy and phthisis pulmonalis. In Spain the patients are left in the bath from three quarters of an hour to an hour and a half, and in case of fainting, a strong wine or decoction of acorns (bellota) is administered to them.

The attention of the French Academy of Medicine has been lately directed to this subject by Dr Marc, who read a report based on an extract from the *Gazette Allemande* of St Petersburgh. We learn from this document that there is a deposition of marine salt in the Crimea which is employed as baths in the cure of hysteria, hypochondriasis, scrofula, scurvy, hemorrhoids, &c. On the borders of the Black Sea, in the Crimea, 45 wersts from Simpheropol and 17 from Kosloff, the recession of the sea, during the great heats of summer, leaves exposed a saline mud, oily to the touch, grey on the surface, and black internally, and giving the odour of marine plants. It is in this mud, which has been ascertained to contain a quantity of marine salt, that the inhabitants of the Crimea, and especially the Tartars, bathe by burying themselves in it. A ditch is scooped out in the form of a bathing tub, in which the patient is put quite naked, and covered with the saline mud, which is renewed several times in the space of three or four hours. He takes at the same time a *tonic* and *demulcent* drink: and on coming out of this bath he plunges into one of common water. The effects of this practice are a mild and general glow of heat soon followed by profuse sweat and eruption all over the skin, and after the lapse of a few hours a most voracious appetite.—*Archiv. Gen. de Med. Nov.* 1827.

29. *Singular Effect of a Cantharides Plaster.*—The second application of a blistering plaster to the chest for a pleuritic stitch was followed, in a case attended by Dr Ammon, with an ulcer on the glans penis, which was not healed until after the expiration of three weeks. It was washed daily with a solution of the acetate of lead. It is worthy of remark that the patient on this occasion protested against the vesicating application, alleging that a similar remedy having been made use of for a pleurisy under which he laboured several years before, was followed by a violent gonorrhœa, which did not yield until five weeks of

suitable treatment.—*List. annals des ges heik.*, copied into the *Bibliotheque Medicale.*

30. *Hæmatemesis caused by per-carbonated Hydrogen.*—Dr De Fermon relates the case of a young woman twenty-two years of age, who, though she menstruated regularly and had usually enjoyed good health, was seized with a vomiting of black blood in large quantities. The situation of the wine store in which this young woman spends her days, and of her bed room, the first having three cocks of lighting gas, and the second being exposed to two others, and having a third in it, accounts, in the opinion of Dr De Fermon, for the production of the disease. He refers to the experiments of MM. Gaspard and Magendie on the introduction of putrid matters into the veins, and to those of Nysten on the introduction of gases into the animal economy; and also the production of intermittent and yellow fevers by marsh air: and he draws the inference that, whenever a foreign substance or matter is thrown into the circulatory apparatus, and which cannot be assimilated to our tissues or fluids, there is, whether the absorption has been from the lungs or elsewhere, a sanguineous exhalation from the intestinal surface.—*Bulletin des Sciences Med.*

31. *Chloride of Lime for the cure of Itch.*—M. Derheims, of St Omer, recommends, in the *Journ. de Chim. Med. de Pharm. et de Toxicol.* for Dec. 1827, the following solution for the cure of itch:—Dry chloride of lime, three ounces, distilled water, one pound. The solution is to be applied as a lotion to the thighs, legs and arms two or three times a day. Six or ten days suffice for a cure. The liquid chlorides of soda and potass have been employed with a nearly equal success.

32. *Hydro-sulphurous water in Colica Pictonum.*—MM. Chevallier and Rayer reported to the Academy of Medicine of Paris at its sitting last September, that the hydro-sulphurous waters of the springs at Enghien and Barrèges taken internally are efficacious in calming the saturnine colic, in those persons employed in the manufacture of white lead.

33. *Sulphate of Quinine in Intermittent Fevers.*—As recorders, in this department of our work, of what we find related in other Journals, without our pretending to be responsible for, or to advocate and approve of the soundness of the reasoning, or the alleged successful practice in medicine, or operation in surgery, narrated in them, we must here notice the clinical remarks of M. Bally at the Hospital de la Pitie. This gentleman contends that small doses of the sulphate of quinine, two grains for example, have very uncertain therapeutical effects, at the same time that they are apt to produce syncope, vomiting and other nervous symptoms referable to *cerebral exaltation.* He asserts that if this medicine be administered in large doses, such as twenty to thirty grains in the day, it will, so far from producing the accidents attributed to it by practitioners, cause the redness and saburral state of the tongue to disappear, and act as a sedative on the nervous and circulatory systems. Nay, still farther, M. Bally is induced to believe that in the engorgements of the spleen, the sulphate of quinine acts as a *deobstruent,* by promptly removing all symptoms of enlargement.

34. *Fumigations of Chlorine in Phthisis Pulmonalis.*—On the recommendation of a M. Gamal, ex-assistant in chemistry to M. Thenard, a series of clinical trials have been made of the effects of chlorine in pulmonary consumption, in the *Hôpital de la Charité.* We wave any minute description of the apparatus, and shall content ourselves with stating that the result was, as might have been anticipated, eminently unsuccessful. In three out of six cases, with cavernous abscesses, there was an aggravation of the disease consequent on the use of the chlorine. Two other patients left the hospital without any marked effects being felt. The sixth, a strong subject, alleged that he experienced nothing peculiar from the medication, and he certainly evinced no sensible change.

35. *Epidemic Zona.*—The hospital of the Bicetre presented in November last an example of epidemic zona. More than thirty persons were assailed by the disease. In one of these, the inflammation was so violent as to end in gangrene of the affected part. Many instances of zona have been observed at the same time in Paris.—*Nouv. Biblioth. Med.*

36. *Constipation of the Bowels.*—In the December number of the London Medical and Physical we find the relations of two cases of obstinate constipation successfully treated. The first was of twenty one days duration. Mr Jones, the professional attendant, had tried in vain calomel and jalap in pills, enemata of different kinds, laxative, terebinthinate and tobacco, croton oil, calomel and opium, extract colocynth, aloes, &c. As a last effort he prescribed the following liniment, to be well rubbed upon the abdomen, particularly over the region of the stomach and arch of the colon, every two or three hours, and each rubbing to be continued for at least twenty minutes: Camphoræ, 1 dr. Ol. oliv. opt. 1½ oz. Liq. ammon. ½ oz.—M.

In the evening of the following day, after this prescription was given, word was brought by the nurse to Mr Jones, that about half an hour after the friction with the liniment had been well used, the patient had a most copious liquid evacuation, which was soon followed by others equally copious, having the consistence and appearance of yeast. She was speedily relieved from all complaints.

The second case of obstruction of the bowels was of twelve days standing. It occurred in the practice of Dr Alexander of Genoa. The patient had all the symptoms of strangulated intestine, although the hernia under which he had suffered for seventeen years was not at all painful, and was reduced by the taxis to one half its usual size. All the usual remedies in such cases were tried in this without effect—and the patient was on the evening of the twelfth day considered as one destined soon to breathe his last. At this epoch Dr Alexander endeavoured to approach the evil more nearly by means which we shall give in his own words.

"I attached," says he, "a long, hollow urethra bougie to the pipe of an injection syringe, calculated to contain more than a pint: this I filled with warm water, and having introduced the entire length of the tube by the anus, I threw the contents of the syringe into the bowel with some force. I then attempted to draw back the piston of the syringe, held steadily in the same position, and with some exertion raised it out one third of its length for the purpose of withdrawing any fluid within its reach. I had continued this action for about half a minute, when my patient exclaimed that he could not breathe longer, and that something was descending. At this moment I felt a sudden rush of fluid into the body of the syringe which was very soon filled; and upon withdrawing the tube, he had immediately a large feculent fluid evacuation, attended with instant and complete relief of all his symptoms. He very soon fell asleep, after taking some jelly and wine, which rested comfortably on the stomach; he awakened refreshed, easy and with an appearance of relief and composure quite new to him for several days. In twelve hours after, he had (as I anticipated) a most violent purging, which seemed to threaten his life; but by stimulants and nourishment, he rallied again, and in due time after, his digestive organs resumed their function, his strength recruited, and I am happy to say he is now restored to perfect health."

Dr Alexander recommends in similar cases an early recourse to the tube and syringe, the former of which might be two feet and of a softer material than the bougie generally is, "so as to follow the windings of the intestines."

37. *Remittent Fever in England in* 1827.—The following statement will shew that our country is not the only one which of late years has suffered in an unusual degree from remittent and intermittent fevers. The sickness in the vicinity of London during the autumn of 1827 will remind us of the epidemic visitation in the country around Philadelphia and the precincts of the city itself in 1823.

"It is notorious," says the Journal of Science, "that in the last autumn the remittent fevers in various parts of the country amounted to a species of pestilence, such as has scarcely been known in England from this cause, or, we might almost indeed say, from any other disease, since the days of Sydenham. Wherever ague had existed, or even been supposed possible, in those places was this fever found: so that in all the well known tracts in Lincolnshire, Norfolk, Suffolk, Kent, Essex, Sussex, Hampshire and so forth, there was scarcely a house without one or more inhabitants under fever, while the event, as might be expected, was a considerable mortality. In the parish of Marston in Lincolnshire, for example, it amounted to twenty-five in three hundred inhabitants; in some other places, it reached one in sixteen, one in thirteen, and one in nine. And so extensive was its range, that even Hastings did not escape, while it would be almost superfluous to say that every other town on the sea coast was so much infected by it, that they who resorted to them for bathing, as usual, found themselves most awkwardly situated and also suffered in considerable numbers."

Fevers of the same nature have been very prevalent in various parts of the outskirts of London, and in the towns or villages connected with it, within a range of from six to ten miles. The writer goes on to say, "that whatever was the pestilence last year, it promises to be much greater in the present one. This is easily judged from the manner in which the season has set in; but still more decidedly from the extraordinary prevalence of ague in the spring; since that which is intermittent fever then, will be remittent in the autumn; or rather, as the author has justly remarked, there will scarcely be a definite season of vernal intermittent; but the remittent will commence immediately, increasing in extent and severity as the summer advances, and promising to become, in the autumn, the greatest season of disease that England has known for this century.

As an example of this, it must suffice to enumerate two or three facts, while these are as satisfactory for our purpose as a thousand would be. The most general of these is, that ague is at this moment extremely abundant where it was formerly so little known as not to be noticed, and that where single cases used to occur, there are now hundreds. Thus has it prevailed at Fulham and Ealing, and in the outskirts of London, and even in the town itself; and thus does it so prevail in Greenwich, Deptford and the associated vicinity, that a medical friend informs us that it comprises more than two-thirds of his entire practice, which is very extensive; whereas a few years ago, he had rarely a patient in a year. Thus also, in the Military Hospital at Woolwich, there were in the spring three hundred patients with this disease; while, in former times, we are assured that an ague was scarcely known once in five or six years."

38. *Sulphate of Quinine externally applied.*—The French Journals contain many accounts of the good effects of the application of the sulphate of quinine in powder to the skin, after the removal of the dermoid tissue by a blister. This method of using the medicine is good in all those cases in which its internal administration was indicated, but in which the extreme feebleness or irritability of the stomach is such as to cause it to be rejected when swallowed. This cutaneous medication has been practised with advantage in the Philadelphia Alms House.

39. *Epilepsy of thirty years duration cured by a Burn.*—A case of this nature is related, in Hufeland's Journal for August 1826, by a Dr BONA. The patient, a shoe-maker, 41 years of age, became epileptic when eleven years old. The fits, at first few in number, finally became regular and frequent, recurring every fortnight at the time of the new and full moon. During a paroxysm of the disease, one day left to himself, he fell into a turf fire and burned severely his left thigh. A large and deep ulcer was the consequence of the burn, but which under the care of Dr BONA finally cicatrized. From the day when the accident occurred, the 20th of March, to the time when Dr B. wrote, in August, this man had escaped any return of epileptic fits.

40. *Iodides of Sulphur in Cutaneous Diseases.*—Dr BIETS, of the Hospital of

St Louis, has instituted trials of the efficacy of the iodides of sulphur as an external application in the squamous, pustular and papular affections of the skin. He has already witnessed their good effects in psoriasis, or dry or scaly tetter, in tinea favosa, and gutta, or acne, rosacea, and is inclined to consider them as among our most powerful therapeutical agents in obstinate cutaneous complaints. But much caution is demanded in employing them. They are mixed with some fatty matter in the proportion of a twenty-fifth, a twentieth or a sixteenth part, and rubbed on the affected part. The deuto-iodide applied to a healthy skin stimulates it strongly and causes itching and even pain and inflammation.—*Clinique des Hôpitaux*, copied into the *Journal des Progres, &c. No. VI.*

41. *Polysarchia removed by free Depletion and the use of Iodine.*—An interesting account of excessive corpulency and the treatment adopted for its relief, has been published in a pamphlet form some time back, by the celebrated surgeon **Graefe**, of Berlin. From a notice of it in a German journal we glean the following:—A butcher of Berlin, named Kröcher, was the subject of the case. Until the age of 30 years he was rather slender, and passionately fond of dancing. After travelling, as is so much the German fashion with tradesmen and mechanics, in Russia, he felt a gradual increase of appetite for flesh meat, which after a time degenerated into a true bulimia. His voracity may be judged of from a wager which he made and won, that he would eat in the course of twenty-four hours a whole calf, with no other seasoning or addition than salt. In his thirty-seventh year, his adipose development was so great, that he could neither stand nor sit, but was obliged to preserve a recumbent posture; and he was at this time, when Dr **Graefe** first visited him, in danger of being suffocated by his own fat.

Dr G. began the treatment by frequent venesection, sometimes twice in twenty-four hours, whenever the oppression was most urgent. The quantity of blood we do not find stated. Goulard's water and extract of belladonna were applied to the enormously distended abdomen. Purgatives were administered daily, which produced twenty, thirty, and even sometimes sixty stools, in the course of the twenty-four hours. Recourse was finally had to the iodine as an emaciating agent. The diet was vegetable and of a very restricted quantity. Under this treatment the patient, who weighed four hundred and fifty pounds at the height of his malady, was reduced, during the period which elapsed from December 1825 to April 1826, to one half of this weight. After this he was able to move about freely, and attend to his business as in early life. His fondness for animal food and his voracious appetite had disappeared. But for the fears entertained of the secondary bad effects of the iodine, its continued use would in the opinion of Dr **Graefe** have reduced Kröcher to his original size. We regret not being able to state the doses of the iodine, nor the entire amount made use of. The general rule however applies, whatever may be the disease, viz. to begin with a moderate dose, and gradually increase it.

42. *Hemlock as a Remedy for the Itch.*—Dr **Giovanni Pellegrini**, says the *Journal Universel*, has made use with the greatest success of the hemlock *(conium maculatum)* in the treatment of the itch. He directs the leaves of the plant to be bruised in a marble mortar so as to express the juice, with which the eruption is to be rubbed five or six times. The disease speedily disappears. He sometimes makes use of the pulverized leaves, at other times of the extract and the decoction—in all cases with entire success.

Perhaps the author would have done well to point out the necessity of a cautious use of so powerful a medicine as the hemlock, which, when thus applied to an irritable and absorbent surface, cannot fail on occasions to produce marked, if not violent and dangerous, constitutional disease.

43. *Hydrorachis cured by Puncturing.*—The Journal Universel for Nov. 1827, under its head of *Variétés*, gives an account of two cases of dropsy of the spinal cord cured by puncturing the tumour. The first was of a child two months old,

with a transparent tumour of the lumbar region. It was accidentally punctured at first, and subsequently two other times by the physician in attendance. Compression was exercised, and the subjacent parts were united and became so firm in the course of a twelvemonth, that this portion of the vertebral column had acquired a semi-cartilaginous consistence, and the lower limbs regained all their power. The want of continuity of the bony canal was supplied by a plate of lead kept on by a compress and roller. The punctures are recommended to be made very small, and when hydrocephalus co-exists, we are cautioned not to expect such complete success as in the case just narrated, and in another equally fortunate in its results.

We could have wished for the name of the physician, and the time and place when the operation was performed. Narratives of all kinds lose much of their value if divested of the circumstances of location, chronology and precise mention of the principal actors.

V. MEDICAL JURISPRUDENCE.

44. *Medico-Legal Discussion on Insanity*, by Dr Georget. We believe that we shall render an acceptable service to our readers by laying before them some interesting facts, and plain reasonings on the subject which heads this article. Dr Georget's work on Insanity is among the very best extant. It is for the purpose of giving still farther extension to the views contained in it that he has written the valuable articles in the *Archives Generales de Medicine*, from which we shall chiefly draw for what follows. With Dr G. we may very well say that questions in legal medicine connected with insanity are neither the least numerous, nor the least difficult. Judges are frequently called on to grant guardians or trustees, in consequence of the alleged mental incapacity of certain individuals to manage their own concerns—and juries to give verdict in cases of improper or mischievous acts, according to their belief of the sanity or insanity of the persons accused. They are on these occasions often at a loss for data on which to form these opinions,—and they naturally look to physicians for assistance.

The great obstacle to a clear understanding of the extent of the moral responsibility of those accused of crimes is the ignorance, for the most part, of the members of society generally of the existence and nature of partial insanity or monomania. They cannot conceive how a man should be proclaimed of unsound mind who reasons well on most things, displays natural and laudable feelings and is only wild or extravagant on a particular subject of thought or affection. In some the change in their intellectual state is so gradual as often not to excite especial comment or remark, until the commission of some revolting extravagance or flagrant crime. The preceding whims and vagaries—inconsistences of conduct and incoherences of remark are two often overlooked or are put down vaguely to the score of eccentricity—an explanation about as valid as to account for a train of morbid phenomena in the body—exacerbations of fever and attacks of pain, by calling them idiosyncrasy.

Dr Georget gives a case communicated by Dr Goupil, in which there was evidently progressive derangement of mind, in a subaltern officer of the French Army. This person whose name was Meudic, aged twenty seven years, was accused of the crime of insulting language and acts of violence towards his superior officers. His conduct in the morning was marked by many inconsistencies, and his violence to his captain, whom he, after having slept out of the barracks a whole night with his mistress, had desired to see, was without motive, and thus the immediate cause of his arrest, which was accompanied by evidences of fury and estrangement of his customary affections. M. Goupil having instituted minute inquiries into the previous state of Meudic's mind as evinced in his conduct at different times and places towards his comrades, and the marked and peculiar physiognomical expression which he displayed during his extravagant fits, adduces the following as proofs of the insanity of this individual.

1. For many years notable changes in the character of Meudic. He had become mischievous, morose and quarrelsome: he was shunned and feared. 2. He maltreated perpetually without cause the different *fourriers* that he had in succession, he got into a passion with and struck them without having any thing to complain of. On one occasion he was desirous of cutting off an ear from one of them—at another time he made a similar attempt on sergeant Cartier. One day he wished to throw him out of the window. 3. When at Maria Louisa's, his mistress, he would from the most perfect calm often pass into a state of fury, strike her and want to throw her out of the window. 4. He used often to remain silent in the midst of his comrades, appeared lost in a profound reverie, when he would suddenly start up and commit extravagances, with an abruptness of transition as quick as lightning. 5. He carried his indifference of business so far as to neglect that of his company. His captain was often obliged to make him come to his quarters in order to force him to be occupied—he was often distracted and in a reverie, and even remained in this state when, in company with his comrades, he was to receive the orders of the adjutant major. 6. He did not rouse himself from this state of depression except to yield himself up to a noisy and lawless bustle; he then would teaze and vex his comrades, and compel them to shut themselves up in order to escape him, or to seize hold of their arms for the purpose of driving him away. He delighted in playing unexpected and often sinister tricks on them: he tried to burn the accounts of one, and set fire to the bed of another; he deluged a third with cold water during his sleep. He would pass whole hours in striking with his sword against the doors and walls. 7. During many months he slept very little; frequently he did not go to bed at all at night, and took no sleep during the day. We know that maniacs are very subject to wakefulness. 8. In no other garment than his shirt, he was exposed during the whole night to the snow; he crossed the canal at Schélestatt during a severe frost; he threw himself into it a fortnight afterwards in the same circumstances; he went down one night entirely naked into the barrack yard and had for a long time the water pumped on his head. Some months before his arrest he was desirous of taking a similar douche in the rue des Drapiers, notwithstanding the remonstrances of his friend Veriac. But what is most remarkable in this last act, is the entire forgetfulness of decency and all sentiments of modesty, which prompted Meudic to expose himself naked for three quarters of an hour in the middle of the day in the yard of a dwelling house then tenanted; and worthy of perhaps still more notice, is the attempt which he made in this state to follow Veriac whom he ran after as far as the street. These circumstances evidently shew a person to be insane. 9. Frequently when Meudic abandoned himself to these extravagances, he would vociferate, and his face become red, and eyes haggard—characters these of maniacal raving. 10. Sometimes he uttered the most unconnected opinions. We are indeed bound to consider that person raving who extols as the noblest of deaths the punishment of a soldier condemned to be shot, entertains his comrades with no other subject but his desire of thus dying, and proposes to his friends and his mistress either to blow out their own brains or to put each other to death.

A review, says M. GOUPIL, of all these circumstances, proves manifestly, that Meudic is deranged. All the acts enumerated characterize insanity, and they are so evident that he does not think it necessary to place them in a stronger light. In reply to the objection, that the prisoner appeared to possess habitually his reasoning faculties, did not rave, and kept his accounts, M. G. proves, by facts drawn from different authors, that there is a *reasoning madness*, such as the poet describes to have "method in it;" in which the affections take a wrong bias and lead to the commission of crime, whilst the judgment and reasoning powers are not affected to any notable extent. The tranquillity of Meudic, after his confinement, will not surprise those accustomed to the insane. Seclusion, a new kind of life, the remembrance of irregular conduct, attention excited by the preparations of trial, all these would naturally create a useful diversion from the ideas before dominant in the mind of Meudic. When visited by his counsel and M. GOUPIL he expressed himself with great facility and precision. Nothing escaped his lips which would have induced the slightest suspicion of any disorder in his intellectual faculties. He told these gentlemen that at the moment of the coming on of a paroxysm he felt something peculiar in his head, as if the blood was in afflux to it. "*It begins*," said he, "*at the nape of the neck, and when it reaches the forehead, I know not what I am about.*" He stated that he felt himself to be in a very different state since he was in prison, and that he was *more master of his head.*

Dr Georget says, that M. Goupil is in error in asserting that the *greater number* of insane persons do not remember the violences which they have committed during their maniacal paroxysms. The reverse is so generally the case, that one is tempted to believe that the patients who say they are unable to recall to mind their past conduct do not tell the truth, either that they may avoid disagreeable questions or from some other motive.

The conclusions by which M. Goupil terminates his memorial are:

1. That Meudic is affected with habitual mania, usually without raving or delirium, but sometimes this latter is present: 2. That he was in a paroxysm of this disease when he committed the acts for which he was arrested: 3. That he cannot be held responsible for his actions.

These conclusions were approved of by MM. Caillot and Berot, professors of the Faculty of Medicine at Strasburgh, and by M. Rieselhueber, physician to the Civil Hospital. Notwithstanding the forcible logic of the memorial and the weight of the authorities by which it was supported, Meudic was condemned to death by the court. The sentence was afterwards commuted for one of ten years imprisonment.

After analyzing some observations of M. Coste, who denies that a person who tries to conceal his condition is really insane, where there is no periodical madness, Dr Georget goes on to say, that if almost all insane persons are ignorant of their mental disorder, there are some again, though few in number, who are sensible of the derangement of their ideas and sentiments, and who regret most feelingly their situation. Others entertain confused notions respecting their disease, and are only aware of it during their lucid intervals, or admit in part their mental alienation. Among very many which we could draw from other sources, we shall quote the case given by Dr G. On the 7th October 1826, he was visited by the wife of a brazier, of the name of Ny, who came to consult him respecting her state of mind, which caused in her the greatest anxiety. She had the appearance of good health, slept well, had a good appetite, menstruated regularly, did not suffer from any pain—nor was there any disorder in her circulation: but this woman complained of at times being seized with certain ideas which would impel her to destroy her four children, though she loves them, as she says, more than she does herself; she is then afraid of doing something sinister, weeps and is in a state of despair; and thinks of throwing herself out of the window. At such times she becomes suffused, feels an irresistible impulsion without any motive, and which is productive of general uneasiness and tremor. She has no *bad thoughts* against other children; she takes care to avoid her own—to keep away from her own house, and to stay in that of a neighbour, and to put out of the way knives and scissors. No other mental lesion is observable. This woman can work no longer in a manufactory in which she had been previously employed, because she requires the assistance of two of her children, and she is afraid to have them so near her. She is not, however, entirely idle; when she has nothing else to do she goes up and down stairs a great many times in order to divert her thoughts. This state of mind has prevailed since the 8th of September: three months before this, she had experienced great annoyance during her menstrual discharge; this continued, however, and returned with the customary regularity. She never had her mind peculiarly struck with the recital of extraordinary crimes.

M. Lallemand, surgeon to the Salpetriere (the hospital for insane females in Paris), prescribed for this woman bathing, decoction of valerian, and the application of a blister between the shoulders.

Suppose a little more intensity of morbid impulsion in this woman, and she would be found to have committed against her will a most horrible crime.

Again, we meet constantly with insane persons who conceal their actual condition. A madman who wishes to destroy himself employs all imaginable devices to deceive the supervision which annoys him. He will even go so far as to pretend to have abandoned his fatal project, the better finally to gain his end. Insane persons retain sufficient command over themselves to avoid all extravagances, and even to behave in a most correct manner before strangers. In illustration of this remark of Dr GEORGET's, we may instance the case of a person who has been for many years in the Pennsylvania Hospital, for insanity. We have frequently, accompanied by ladies, conversed with this person, who on these occasions always avoided the slightest approach to indelicacy of allusion or improper language—whereas when speaking to a party of his own sex, he would allow himself great latitude of remark, and at times indulge in grossness of thought and speech.

A lady, continues Dr GEORGET, imagined herself to be deprived of all feeling and affections, pretended no longer to have any want, or experience any fatigue, and compared herself to a machine, which is made to move by certain springs. Believing that she would never be restored to health, she entertained a wish of destroying herself, and made several attempts to that effect. This state was accompanied by occasional agitation, and the patient would treat her female companion with abruptness and abuse. Notwithstanding all this, the lady in question received visits, and at times passed whole evenings with persons of her acquaintance, without evincing the slightest disorder in her mental faculties.

Analogous to this is the case of the individual spoken of above in the Pennsylvania Hospital. He converses on the common topics of the day with ease and connexion, makes pertinent remarks on men and manners, and to see him, as happened to us lately, in the library with a book before him, one would be tempted to regard him as a gentleman of literary leisure—a quiet and sensible observer of events. But let the conversation be directed to the subjects of the seasons, health, sickness and death, and the monomania of this person soon shews itself. He believes that his life is interminable; and in a house where he must necessarily hear much of disease and death, he still thinks that he will be exempt from the common lot of mortals.

In the asylums for the insane, the desire, says Dr GEORGET, which is entertained by many of these afflicted persons to meet together, either at meals or in the public room or in a walk, induces them to exercise a restraint on themselves. M. COSTE would, doubtless, be much astonished, were he to spend several hours in a room, in which ten or twelve of this class of patients are playing or working, often without their allowing a single remark or act to escape, which could reveal their actual state. The reason is, because these patients *understand the interest* which they have in recreation and the enjoyment of pleasant society, rather than weary themselves in their own rooms.

A monomaniac had, among other unreasonable notions, that of believing his wife was dead, and he alleged, that the person presented to him under that name had indeed the same features, but that such a transformation as this was possible. Pains were frequently taken to combat so erroneous a belief, the falsity of which was so readily demonstrable—and on this was grounded the reason for his seclusion and medical treatment. The patient at last ceased to speak of this chimera, though he had not given it up; whenever he was brought to the point he evaded it, and said let us talk no more of that. Still, he would never admit that his wife was living, and that it was really her he had seen. He, however, concealed his opinion, as the only means of putting a stop to the persecutions under which he believed himself suffering.

Finally, we may observe in certain acts of the insane, premeditation, combination, will and foreseen results. Suicide is of this nature. The patients who wish to destroy themselves, display incredible address in discovering a suitable place, seizing the occasion and preparing the means of execution. The lady already spoken of, not being able to elude the watchfulness of the persons near her, feigned for several weeks to have renounced her intention of destroying herself, proposed on one occasion to take a walk in a place where there was a large sheet of water, strolled for some time at a distance from it, gradually drew nearer, without seeming to notice it, but rather with the most tranquil air. Hardly had she taken some steps along the border, when she threw herself with all her force into the water. On being withdrawn, her first words were those of reproach, addressed to those who had just saved her life.

Insane people will often display their light fingered propensities, and steal with great address, hiding carefully the things purloined, and if accused affirming with great warmth that they are innocent. A patient in a madhouse had with premeditation attempted to commit a violent act on some person; and on being reproached for doing so he replied tranquilly in the following manner: "Eh, well! even if I had killed him, that would have been all, since they say I am mad." Here indeed was madness with method in it.

Believing this to be a subject of no common interest to the members of our profession as well as those of the bar, we shall return to it in future numbers of the Journal.

45. *Means of discovering Blood Stains on Arms and Clothing, and of distinguishing them from other Stains.*—Such is the title of a memoir read to the Academy of Medicine by that indefatigable medical jurist, M. ORFILA. The blood stains on iron or steel instruments may be confounded with rust spots, or those caused by lemon juice—the colour being the same, a brownish red in all. In order to accurately distinguish them, M. ORFILA recommends the four following tests. 1. Expose that part of the instrument on which is the suspected stain to a heat of 77° to 86° Fahr.; if the spot be from blood or lemon juice it comes off in scales and allows the metallic brilliancy of the instrument to appear beneath it; if it be from rust there is no alteration. 2. Scrape off a part of the stain and heat the scrapings in a narrow glass tube, above which are placed two pieces of litmus paper, one of which has been reddened by an acid; if the stain is of blood or rust, there will be a disengagement of ammonia, which restores to its blue colour the litmus paper reddened by the acid; and if the spot is caused by lemon juice, that is to say, if it is citrate of iron, there will be a disengagement of an acid product, which will redden the blue paper of litmus. 3. Let fall on the suspected stain one or two drops of hydrochloric (muriatic) acid; if it is citrate of iron or rust, it first becomes yellow, then the hydrochlorate (muriate) of iron, carried off by water, allows the instrument to be seen of its usual brilliancy, and this hydrochlorate may be discovered by the usual tests for salts of iron; if the stain is of blood there will be no change. 4. Plunge the instrument in distilled water, so that the suspected stain shall disappear in it by solution: if it is of rust it will not be so dissolved, a part only of the matter forming it is detached and suspended in the liquid, which becomes of a yellow colour, but which, after filtration, regains its transparency and does not contain a particle of iron: if the stain were of citrate of iron, it would be dissolved, give the fluid a yellow colour, and this fluid would redden litmus paper, and be proved by the usual tests to contain a salt of iron: finally, if the stain were of blood, it would be detached in reddish striæ, which could be collected at the bottom of the vessel, and not colour the liquid unless it were shaken, then the deposited matter is dissolved in water and colours it. We can then experiment as follows:—In the first place, this liquid does not colour tincture of litmus, and does not contain any salt of iron, as in the case of the stain caused by lemon juice: in the second place, the colouring matter which it contains is a colouring animal matter, since it is coagulated by heat, loses its colour, and is precipitated of a greyish white by the nitric and sulphuric acids; loses its colour, and is precipitated red by nut galls; and is at first made green, then loses its colour, then made opaline, then precipitated in whitish floculi by chlorine: and in the third place this colouring matter is distinct from all other known colouring matters, since it is not changed by ammonia. At the place where the stain was on the instrument may be detected white and slightly red filaments, which are discovered to be fibrin; this,

however, only takes place if the stain be thick. The instrument must be withdrawn from the water so soon as the reddish deposit is formed, because the contact of the air would convert it into a tritoxide of iron, which would colour both the liquid by being suspended in it and the colouring matter by being precipitated with it. Still they might be separated by the filter.

In reference to the stains of blood on clothing, M. ORFILA distinguishes two contingences. Where the stain is very thick and displays all the elements of blood, it should be dipped into distilled water; and whilst the fluid is charged with the colouring matter, which is ascertained by coagulation by heat, by the action of the nitric and sulphuric acids, nut galls, chlorine and ammonia, the fibrin remains on the cloth in the form of a reddish grey matter, the more readily recognizable as the more prolonged immersion in water will have carried off more of the colouring matter, and the cloth will be of a browner colour. Where the stain is light and caused merely by imbibition, or has been rubbed and washed, it will contain less fibrin, and we can only obtain by water the colouring matter, to be tested as already directed. M. ORFILA has made these experiments on five kinds of blood, viz. that of man, the ox, sheep, dog and pigeon.

The above is the substance of one of five memoirs presented to the Academy of Medicine by this learned professor. We shall take cognizance of the other four at as early a period as possible.

VI. SURGERY.

46. *Glutæal Aneurism—Ligature on the Internal Iliac Artery.*—In the 2d number of the American Journal of Medical Sciences, Mr S. POMEROY WHITE, of Hudson, N. J., relates the case of a man, 60 years of age and of intemperate habits, who had suffered for ten months from a tumour over the sciatic notch. On examination, in October last, no pulsation was evident—fluctuation was perceptible, and to ascertain the nature of its contents a puncture was made, which was followed by a discharge of a pint of fluid blood. The internal iliac artery was afterwards secured by an incision through the abdominal parietes,—peritoneum excepted, and by means of PARRISH's aneurismal needle and HOSACK's "knot applicator."

For four weeks suppuration was considerable: at this period the ligature came away. "The tumour has discharged its contents gradually, and the parts have assumed their natural appearance." On the 1st of December the patient was able to walk about his neighbourhood. The operation was performed on the 23d of October.

47. *Excision of the Nerve in Neuralgia.*—Medical and surgical measures have been equally extolled and perhaps equally successful in neuralgic affections. Narcotics and tonics appear to be the most promising remedies among the former. Incision of the soft parts generally, division or excision of the affected nerves, and the actual cautery have been praised by surgeons. In the *Boston Medical and Surgical Journal*, Dr JOHN C. WARREN has published some successful cases of excision of a portion of the nerve; being prompted to this operation by a knowledge of the fact that nerves which have been simply divided often reunite, and thus the operation is inefficacious. Two cases are related of division with temporary relief. The third case is interesting, and evinces not only the patience of the sufferer, but also the boldness and dexterity of the surgeon, who was happily rewarded by the recovery of his patient.

Mr S., aged 70 years, had a neuralgic affection of the face of fourteen years' standing, and for the last four years he had not been free from pain while awake, and his sleep was short and interrupted. Three operations,—two on the suborbitar nerve, and one on the anterior mental nerve,—were ineffectual. Believing that the facial nerve (the portio dura) was the seat of the disease, Dr WARREN determined to divide it *at its root*, where it issues from the stilo-mastoid foramen. "When the nerve was cut, the muscles of the face quivered and were paralyzed; but the patient said he *merely perceived* the division; that it was not attended with an acute pain, and that the principal cause of his sufferings was not reached." The pain, however, in the upper part of the face appeared to be removed.

Suspecting that the inferior maxillary nerve was concerned, the following novel operation was devised and executed by Dr WARREN. An incision was made over the side of the jaw, through the parotid gland and the masseter muscle, so as to expose the bone; this last was then perforated with a trephine, three quarters of an inch in diameter, and applied half an inch below the semilunar notch, midway between the anterior and posterior edges of the jaw. A circular piece of bone was removed in two parts—the external table by the lever, the internal by the forceps, exposing the nerve, artery and vein. "The sub-maxillary nerve being raised on a probe, the patient directly exclaimed that this was the seat of his sufferings. Half an inch of this nerve was cut out, and on examination it was found to comprehend the branch, given to the internal face of the lower jaw. The artery was tied without difficulty." "The patient said the pain of this operation could not be compared with that from his disorder. The pain, on the wounding and dividing the maxillary nerve, was most acute. On the evening of the operation he was relieved from pain, the first time for four years, and had no return of it afterwards."

Two cases of neuralgia of the infra-orbitar nerve, in each of which Dr WARREN extirpated half an inch of the nerve with permanent relief, are next related; and afterwards one of the supra-orbitar nerve, in which the operation was proposed; the patient retreated precipitately. "A considerable time afterward he came to let me know that he was entirely well, and dated his recovery from the time *he heard the proposal of an operation*."—p. 6.

48. *Extirpation of a deep seated Tumour of the Neck.*—The patient was a man of 60 years, and of a weak constitution. He was admitted into the Massachusetts General Hospital with a tumour of a stony hardness, extending from the lower jaw to the inferior part of the neck on the left side, and from the trachea to the transverse processes of the cervical vertebræ under the mastoid muscle. In the mouth, on the left side of the fauces, a tumour is also seen, extending half across this passage, and rendering deglutition difficult.

As the patient would soon have perished, it was determined, with his consent and after informing him of the dangers of the operation, at a consultation of surgeons, to extirpate the external tumour, which delicate, tedious and dangerous operation was successfully executed by Dr WARREN, although the tumour was found to embrace the common carotid artery and the pneumo-gastric nerve, and to involve other important parts. The patient rapidly recovered. The tumour on the inside of the mouth was cauterized with a hot iron, and the patient soon returned to his accustomed avocations. This operation we consider as one of the most splendid in the annals of surgery, not in consequence of its success, or of the benefit derived by the individual, but from its requiring more anatomical knowledge—more judgment—calmness—self possession—than perhaps any other dissection which the surgeon has to execute. The following details therefore from No. 2. of the Boston Medical and Surgical Journal will be read with interest. The operation was performed on the 19th of October 1827, in presence of many of the faculty and of the medical class at Boston.

"An incision was made from the ear to the clavicle, inclining forwards from the ear towards the larynx so as to uncover the middle of the surface of the tumor. This part of it was then dissected and brought into view, so as to expose the more prominent portion, which was separated from the lower jaw and the ear above, from the larynx before; and the mastoid muscle was turned back from the upper portion of the tumour, care being taken to avoid the accessory nerve where it enters the muscle.

"About this period the patient fainted twice in succession, but by inclining the head downward, he was recovered.

"The next object was to disengage the tumour at its lowest part, and ascertain its relation to the great blood-vessels and nerves. In prosecuting this part of the operation, it soon appeared that the disease extended so low, as to leave a small space between it and the clavicle. While cautiously attempting to raise the lower part of the tumor, and looking for the internal jugular vein, this vessel was found to be pushed forwards by the tumour, and bent from its course, and to be covered anteriorly by a thin layer of the tumor, which obscured its usual blue color, and confused it with the surrounding parts.

"The deep dissection of the tumor was prosecuted at the superior part of the neck. The numerous large arteries from the external carotid being situated here, it was necessary to prevent the hemorrhage from these vessels, by placing a ligature upon the carotid artery at the lower part of the neck. For this purpose the sternal attachment of the mastoid muscle was cut. Then by dissecting the sterno-hyoideus and dividing the omo-hyoideus, which was thin and red from passing through the tumor, the artery was exposed, its sheath opened, dissected, and a ligature of three threads passed around it and tied. The patient expressed no emotion at the ligature of the artery, nor did he appear inclined to faint again.

"Passing a ligature through the tumor it was drawn backwards, and thus the dissection was continued high and deep, to the side of the pharynx. In doing this, a considerable nerve, apparently the glosso-pharyngeal, was unavoidably divided. The tumor being somewhat loosened, a cord was seen proceeding out of it, towards the upper part of the neck, appearing to be a part of the tumor. This proved to be the par vagum nerve and the carotid artery. The entire extirpation of this part of the tumor was impracticable, except by a dissection which the patient would not have supported. The tumor was therefore removed in separate portions:—first the most considerable mass of it, afterwards the other portions, so as to leave a small part only attached to the vessels and nerves; this was in great part broken and detached by the fingers. In performing this part of the operation, it was perceived that when the tumor was so moved as to draw the par vagum (which necessarily happened in a slight degree), at that moment the patient had a sort of spasm or convulsion, extending from the neck into the thorax, and trunk of the body.

"In the dissection of the upper part of the tumor, the thyroid vein was necessarily cut off, and produced a bleeding which was troublesome while it lasted. This was the principal hemorrhage. Except at the beginning of the operation, there was scarcely a show of arterial blood. The skin was brought together to allow such parts as might be disposed to unite, in order to lessen the extent of the wound."

"The recovery of this patient shews what extraordinary wounds a weak, yet unirritable constitution can support. In this operation, which lasted an hour, including the faintings, the carotid artery was tied; the par vagum nerve and the internal jugular vein dissected, for a considerable extent; the accessory and sublingual nerves exposed; the glosso-pharyngeal and the descending branch of the sublingual, or descendens noni, cut off; part of the pharynx and trachea uncovered; the mastoid muscle dissected for its whole length and divided; the omo-hyoid, sterno-hyoid and sterno-thyroid, dissected, and the first divided; the digastric and internal pterygoid and other small muscles dissected; and the transverse processes of the cervical vertebræ in part exposed."

49. *Carotid Aneurism.*—Dr Warren, on the 26th of October last, secured the carotid artery, not much above the clavicle and in its deepest situation, for an aneurism of this vessel. The patient rapidly recovered; the pulsation of the tumour continued for a number of weeks after the operation, and was attributed, not so much to the regurgitation of blood, as to the locomotion of the artery from the impulse of the heart, &c.—*Bost. Med. & Surg. Journ. No. 8.*

50. *Rupture of the Jejunum.*—In the January Number, 1828, of the Western Medical and Physical Journal, Dr Drake records a case of rupture of the jejunum,

caused by a kick from a horse on the left side of the abdomen. The nature of the injury before death was not evident. The powers of the system were prostrated as if by hemorrhage, and the patient survived only thirty hours. *Dissection* revealed a rupture of the jejunum, an extravasation of yellowish feculent fluid, extensive peritoneal inflammation, effusion of lymph and general agglutinations of the intestines. There had been no hemorrhage.

51. *Periostitis.*—At the sitting of the Medico-Physical Society of Florence, on the 10th of June, Dr Cassini reported one chronic and two acute cases of idiopathic periostitis, which demanded surgical operations. From them he infers, that inflammation of the fibrous envelope of bones is the principal cause of caries, of necrosis, of atrophy, and of the absorption of bones. He advises that the tumours should be speedily opened, and he does not regard them as indicative of syphilis.—*Jour. des Progres, Vol. 5.*

52. *Fracture of the Neck of the Femur.*—On the 16th of August, M. Larrey delivered a report to the Section of Surgery, upon a memoir of M. Brulatour, of Bourdeaux, detailing eight cases of fractures of the os femoris. Many of the patients were cured in three months, *without deformity and without lameness*, by means of Dessault's apparatus for permanent extension. One individual, ten months after his cure, died of an hæmatemesis; and dissection demonstrated that a bony consolidation of the two fragments of the neck of the bone had occurred without shortening.—*Nouv. Bibliotheq. Oct.*

53. *High Operation.*—Theoretically, it has always appeared to us, that this operation is deserving of more attention than surgeons have accorded. It is one easily performed, involving few important parts—interesting tissues of little vascularity, sensibility or irritability; admitting of free incisions for the extraction of the largest calculi,—calculi which could not be extracted by the low or perineal operation, and liable, as far as we can discover, to but one serious objection, viz. urinary infiltration. This danger it has in common with the perineal operation, and it cannot be considered very great by those who are acquainted with the histories of wounds of the bladder, and with the puncture of this viscus for a retention of urine, and who are aware of those preventive measures almost always at command.

M. Amussat, we learn from the October number of the *Nouv. Bibliotheq.* has lately performed this operation twice with success, and experienced no ill consequences from the discharge of the urine through the wound—which he endeavoured to resist in one case by a suture of the bladder, and in the second by a canula; in neither case successfully. This surgeon believes "that the dangers of the high operation are less than have been imagined, and that this method is even preferable to the perineal incisions,"—"an opinion," says the editor in a note, "of many celebrated lithotomists."

54. *Syphilis treated without Mercury.*—This innovation appears to be rapidly gaining ground on professional prejudices, and to be overthrowing long established opinions and practice. A small work of 122 pages has appeared in Germany, entitled Ueber die Lustseuche und ihre Heilung ohne Quecksilber—on Syphilis and its Treatment without Mercury, by Dr Franc. Handschuh, of Munich, 1826. We take the following notice from the *Bulletin Univer. for October*, without vouching however for its historical correctness.

This is the first work in Germany, in which the treatment of syphilis without mercury is maintained from actual experiments, containing the result of the extensive military practice of the venerable Brunninghausen. This physician was the first to introduce into Germany the antiphlogistic treatment adopted in England; and until the present time, he appears to be its only follower, or at least, other German physicians have not published on the subject. Dr Brunninghausen commenced his observations in 1819, after having for thirty years, treated syphilis with mercury, and not without success in the same hospital, and in a very extensive private practice. Hence, he could readily compare the results of the two methods: the success of the new measures was great and even surprising. The experiments were continued for ten months, from the month of May 1819, to that of February 1820, until ill health obliged this veteran of the art to retire from his public situation of surgeon to the military hospital of Wurzbourgh. Dr **Handschuh** gives the following summary of the forms of syphilis, treated during the above mentioned period.

I. PRIMARY AFFECTIONS (LOCAL SYPHILIS).

a. *Syphilitic, properly so called.*

Chancres on the genitals,	29
Buboes cured by resolution,	17
———— suppuration,	5
Patients admitted with open buboes,	3
———— with buboes ready to open,	1
Excrescences,	4
	59

b. *Accidental Affections.*

Gonorrhea,	4
———— of the glans penis,	1
Phymosis,	11
Indurations of the prepuce,	6
Excoriations,	1
	23

II. SECONDARY AFFECTIONS (CONSTITUTIONAL SYPHILIS).

Condylomata,	6
Inflammation and suppuration of the throat,	5
Cutaneous eruptions,	2
Ulcers of the skin,	3
Tuberculous (tophacés) swellings of the forehead,	2
	18

Whole number,	100

All the local affections were from impure coitus; all were cured without mercury, with the exception of four cases of chancre. In one of these cases, mercury hastened the cure; in another, the cicatrices opened at different periods after the apparent cure; in a third, complicated with an open bubo in the groin, mercury was of no utility; and in a fourth, condylomata appeared after the cicatrization of the chancres. Among the individuals cured without mercury, one only had secondary symptoms, viz. ulcerations of the skin. Secondary symptoms appeared in the greater number of cases, after the primary affections treated with mercury. These all recovered without mercury, with the exception of a cutaneous eruption in one case, managed with mercury combined with antimony.

The soldiers thus treated have been periodically examined by physicians and surgeons; and if the new method had been followed by bad consequences, these would not have remained unknown; and six years have elapsed without any such evil result having come to his knowledge.

The same antiphlogistic treatment of syphilis, without mercury, has been extensively adopted at the General Hospital at Hamburgh, by Dr **Fred. Guill.**

Oppenheim. The number of syphilitic patients thus treated, from the 18th of July 1825 to the 1st of January 1827, is 402,—101 males and 301 females. Of these 308 had primary affections. Secondary symptoms occurred in 54 patients. Primary and secondary symptoms existed at the same time in 40 individuals.

The *local* symptoms were cured at the following periods after admission:—in 13 patients after a residence of 1 to 10 days; in 71 from 11—20 days; 53 from 21—30 days; 4 from 31—40 days; 56 from 41—60 days; 42 from 61—90 days; 18 from 3 to 4 months; 4 from 4 to 6 months; and 7 in 6 months or longer.

The *constitutional* symptoms disappeared—in *one* case from 1 to 10 days; in 8 from 16 to 20; in 6 from 21—30; in 12 from 31—40; in 11 from 41—60; in 13 from 61—90; in 2 from 3 to 6 months; and in 1 after 6 months.

Local complicated with *constitutional* syphilis was cured 3 times in 11 to 20 days; 4 times in 21—30; 5 times in 31—40; 6 times in 41—60; 11 times in 61—90; 8 times in 3 to 4 months; 1 in 4 to 6 months, and 2 after this period.

"The average term of residence in the hospital," says the reporter, "was 50 days; the mercurial treatment demands nearly double this period."—*Bulletin Univer. Oct.*

55. *Recto-Vesical Operation.*—Dr Wenzel has lately performed this operation, with complete success, on a young man aged 17 years. The calculus weighed two ounces, was three inches and six lines long, by ten lines to two inches in breadth.—*Jour. Univers. Sept.*

56. *Abscess of the Loins, discharged by the Bronchiæ.*—We learn from the Journal General for October, that at the sitting of the Academy of Medicine, on the 30th of August, an able report was made by M. Hervez de Chegoin, on a case detailed by M. Ducasse, fils, surgeon at Toulouse. The case was that of a peasant aged 30 years, who for six months had suffered from obscure uneasy sensations in the left side of the thorax, followed by dyspnœa, cough, fever, great emaciation, &c. &c. A swelling was perceived in the loins, diffuse and not much elevated. Regarding it as a "cold abscess" or "abscess by congestion," termed by the English a chronic or scrofulous abscess, M. Ducasse punctured it and gave issue to two pounds of good pus, with relief. Two days afterwards, a violent cough supervened, and was followed by an expectoration of six pounds of the same kind of purulent fluid as was evacuated by the puncture. A free incision was made into the lumbar abscess, so that four pounds of matter were thus discharged, containing large flakes of sloughing cellular tissue (of coagulable lymph?).—The cough, expectoration, &c. immediately disappeared; the patient recovered in six weeks, and is now in good health.

The reporter labours to prove, that this was a case of empyema—either complicated with an abscess of the loins, or such abscess resulting from ulceration of the costal pleura and the consequent descent of the pus in the cellular tissue of the back. The diagnosis, however, must remain imperfect from the deficient history of the case; for, asks the reporter, why was not the chest examined? "That a man should cough, have a difficult respiration and expectorate pus by mouthsful (à pleine bouche), and yet not be subjected either to auscultation or percussion, in the times in which we live, is truly surprising." We record this criticism, that the profession in this country may know what is expected of them, in pulmonary diseases.

As to free incisions in these chronic collections of matter, they are not to be recommended; the valvular incisions of Abernethy and Boyer are superior, and the successful issue of the contrary practice, in the above case, is satisfactorily explained by the reporter M. Chegoin,—the opening being at a distance from the cavity of the pleura, the supposed seat of the effusion, so that air had not a ready access.

On the subject of this evacuation of pus from abscesses by congestion, M. Hedeloffer, at the surgical meeting, recalled the advantages of applying *cups* over the orifice at each dressing so as to evacuate the whole of the pus; an improvement which promises to be exceedingly important.

57. *Cancer of the Lips.*—In the Journal General, for October, is recorded the report of MM. CHEGOIN and MERAT, on some cases of cancer of the lips, by M. ROUX, of Saint-Maximin. M. ROUX has operated on three patients with cancerous affections of the lips and sides of the face, so extensive that great deformity would have resulted by simple extirpation of the diseased portions in the usual manner. He has, therefore, put in full and successful requisition a plan practised by M. ROUX, of Paris, which consists in carrying the primary incisions to a considerable distance, and then dissecting up large flaps from the contiguous surfaces. In this way, the skin can be frequently brought over the parts originally occupied by the diseased mass, and union, by the first intention, be often effected, so that comparatively little deformity will result. We consider the operation as simply a modification of the Taliacotian practice, but at the same time valuable in preventing a disgusting deformity, and often in preserving the functions of the lips and tongue, in some of these hapless cases of extensive cancerous disease.

58. *Wounds from Rabid Animals.*—In the Journ. General, Oct. is recorded a case of hydrophobia in a female, six weeks after the bite of a mad dog. The wound had cicatrized: the cicatrix did not become sore or red. The patient died on the third day. No appearance of phlyctænæ could be discovered under the tongue. *Dissection* shewed inflammation of the tongue which was slightly covered by a false membrane; a very small pustule was noticed under the left side of the tongue. The false membrane could be traced into the œsophagus; the mucous follicles were enlarged, the œsophagus contracted but very slightly phlogosed. Some slight inflammatory exudations were found in the stomach and duodenum. Other abdominal viscera and the brain were natural. The spine was not examined.

On the 11th of Feb. 1826, at Tykocin near Lomza in Poland, twenty-three individuals were bitten by a mad wolf; many very severely. The patients had their wounds kept suppurating for six weeks, were rubbed with mercurial ointment, and took internally belladonna, and the meloe majalis, or as a substitute, the meloe vesicatorius, in powder.

Of the twenty-three individuals, two died of their wounds and five from hydrophobia. Precursory symptoms of the disease appeared in four cases, but were dissipated by large doses of the extract of belladonna.

The first of the cases of hydrophobia was a man aged fifty years, who was attacked on the thirty-ninth day; the second was a boy, aged thirteen, who sickened on the forty-first day. Some days afterwards a female and two labourers became the subjects of the disease. All died on the 17th or 18th day from the occurrence of the symptoms.

The sixteen individuals, who experienced no evil consequence, remained well in July 1826. This extract is made from the *Journ. der Pract. Heilkunde.* Dec. 1826, by the editor of the Journ. General.

59. *Ligature of the Subclavian Artery.*—In the Medico-Chirug. Rev. for Jan. is recorded a case of axillary aneurism successfully managed by Mr ROBERT THORPE of Manchester. Thomas Whanby, æt. thirty-six years, was admitted into the Manchester Infirmary, April 16th 1827, with a pulsating tumour of a year's duration in the axilla. On the 21st of June, the subclavian artery was secured above the clavicle in the usual manner; no difficulty was experienced in passing the ligature by means of the common aneurismal needle. The operation lasted but fifteen minutes and not more than ʒii. of blood were lost. The patient did well until the night of the 2d of July, when he *awoke suddenly* and felt blood running down his breast. He lost about ℥xxx. when fainting ensued and the bleeding ceased. On the 4th of July, the ligature came away, there was no recurrence of the hemorrhage and the patient left the Infirmary on the 3d of September, quite well. "To watch the gradual return of the circulation was in this case exceedingly interesting. In eight hours a tingling sensation, which had lasted from the time that the ligature was tied, now subsided; and a burning

heat supervened, or, as the man expressed himself, 'it felt like a fire between his shoulders and along his neck,' accompanied, now and then, with a feeling as though cold water was trickling down his arm, even to his fingers. Twenty-four hours after the operation the arms were both of the same temperature, 99°. After the lapse of forty-eight hours, the patient could discriminate which finger was touched; yet it is rather singular, that the thumb was most benumbed, though perhaps the most vascular. On the 6th of July, I discerned a pulse in the brachial artery, but I have not been able to feel any pulsation in the radial up to the present time, Oct. 25th 1827. The man is now daily at work having complete use and power of the aneurismal arm."

60. *Mr Wardrop's Case of Ligature on the Subclavian Artery for Aneurism of the Arteria Innominata.*—At p. 227, in the last number of this Journal, we gave some particulars of this bold operation. In a postscript to the January number of the Medico-Chirurgical Review, we find some further statements, unfortunately very contradictory. For example, Mr Wardrop states, on the fifth of December (five months after the operation), that, with the exception of a slight attack of bronchitis, which she had about a fortnight ago, the woman has continued to improve progressively ever since the operation, and that she is now perfectly cured. The reviewer, Dr Johnson, affirms, that he visited the patient, Mrs Denmark, on the twelfth and on the sixteenth of December. "She was still alive and may continue to live for some days." "There is aneurism of the aorta or the innominata, in a very advanced state, pressing on the bronchiæ and the root of the trachea." It is not easy to reconcile such assertions from reputed gentlemen of a liberal profession, except, perhaps, upon the supposition that Mr W. confined his remarks to the aneurismal tumour of the innominata, which is said to have disappeared, and to the effect of his operation. We may look for further light on this interesting subject.

61. *Luxation of the Cervical Vertebræ.*—At the session of the Academy of Sciences, November 12, 1827, MM. Boyer, Chaussier and Dumeril reported on two cases of luxation of the cervical vertebræ, said to be successfully reduced by M. Barli, physician at Limoges. Paralysis of the lower extremities is said to have existed and to have been immediately cured by the operation of reduction. M. Barli promises to present very soon a simple apparatus *for the reduction of the luxations of the vertebra dentata!!*

Boyer pronounces the cases unworthy of the attention of the academy—contradictory to the fundamental principles of surgery and absolutely absurd. The report and conclusions of Boyer were adopted.—*Jour. Général for December.*

62. *Rhinoplastique,—Taliacotian Operation.*—M. Delpech, professor at Montpellier, has performed this operation twelve times, with what success is not stated. He gives the following rules.

That the nose should not be made from the skin of any other part than the forehead, as there is not a sufficient similarity of structure.

That the form of the flap should resemble a trident, which form will allow the edges of the frontal wound to be so approximated, that the cicatrix will be linear. M. Delpech advises that the points of the flap should be accurately fixed by sutures. He scarifies the borders of the nares and has no hesitation in denuding the rest of the cartilages, but objects to the insertion of lint or of any foreign substance under the flap, as aggravating the inflammation and endangering gangrene. M. Delpech makes the flap as long as possible, by carrying the incisions into the hairy scalp,—hence there is less danger, on twisting the flap, of interrupting the circulation, and when the remaining connexion is separated, it is more easy to give the upper extremity a pointed shape, which is always desirable. The summit of the flap is, however, not to be divided, until the cicatrization is complete.—*Jour. General, Dec.*

63. *Lithontrity.*—*In the Annal. de la Med. Phys.* are recorded more in detail, M. **Amussat's** cases of high operation for stone (vide above No. 53) and also a case of calculus in a man 60 years of age, who was successfully submitted to the new operation for breaking the stone or *true lithotomy*, the credit of which is given to **Civiale**, but to which M. **Amussat**, among others, lays claim.

From the Archives General. for December, we learn that M. **Lisfranc**, with a commendable liberality, placed two of his calculous patients under the care of M. **Civiale**, that they might be subjected to lithontrity. The first was a child seven years old. Some flexible sounds were introduced into the urethra before the operation: after which the lithontriteur—two lines in diameter, was easily passed; the stone, about the size of a filbert, was quickly seized and, although composed of oxalate of lime, was quite friable. At the end of three days, the first fragment engaged in the urethra was extracted; the trituration was continued every second day, and the patient was promptly cured. The *second case* was a sexagenarian, who had been cut for the stone when 12 years of age, and who had a fistula as the result of the operation. Again suffering from a calculus for fifteen months, he was freed from it by M. **Civiale**, at five sittings. We fondly hope that these cases and the valuable publication of our friend, Dr **La Roche**, who was an eye witness of **Civiale's** operations, contained in our last number, will stimulate some of our American surgeons to introduce the improvement of **Civiale** into general use among us. What has so often been done in France, and what **Dupuytren** and **Lisfranc** have sanctioned, ought surely to be attempted in America.

The Edinburgh Medical and Surgical Journal, January 1828, contains an account of the first patient in that country (Britain?) who has been the subject of lithontrity. The patient, Peter Runiman, æt. 62, was first operated on by Mr **Liston**, on the 26th of September last. "The stone was at once seized, drilled, slipped, caught and drilled again without the patient complaining of any but slight pain." The operation was repeated on the 9th of October, the 18th, 27th and 31st, and also on the 6th, 13th and 17th of November, with various success. The patient, not satisfied with so tedious a method, at last consented to lithotomy, which was successfully executed in three minutes on the 25th of November. He soon recovered. The stone was of a flat spheroidal form, two inches and a quarter in length; in breadth one inch and three quarters; in thickness eight-tenths. The marks of twelve drillings are distinctly visible—one had passed entirely through. "Had the calculus, though of an unfavourable shape, been less hard and tenacious, it must have been destroyed by the fourth or fifth operation."

64. *Gonorrhœa.*—That this disease consists in an inflammation of the mucous membrane of the urethra, few doubt; but whether there is any peculiarity in the inflammation, originating from a specific virus, is yet in dispute. This is, of course, decided negatively by **Broussais** who admits of no modifications of inflammation by its causes, and in the October number of his Annales de la Med. Phys. we find three cases reported by M. **Hutin**, of venereal gonorrhœa, two of which were treated by an abstemious diet, general bleeding, leeches and emollients. One patient was perfectly cured on the ninth day, and the second on the fifth day. The third case was at first treated by balsam copaiba, turpentine, cubebs, &c. &c.: a gleet resulted. The patient at length submitted to a severe regimen and antiphlogistics; and on the sixteenth day of this practice, "there remained not the least trace of a running which had continued for four months."

65. *Lithotomy.*—M. **Souberbielle** informed the Section of Surgery, that since the publication of the work of M. **Belmas**, he has, seven times, successfully performed lithotomy; six times above the pubis, and once by the perineum. One of the six patients was 77 years of age.—*Archiv. General. for Nov.*—Our readers recollect that M. S. has the credit of reviving the high operation.

66. *Caries.*—Dr John Inglis Nicol, in the January Number of the Ed. Med. and Surg. Jour. has published an interesting essay on caries, recommending very strongly the internal use of the sarsaparilla, occasionally assisted by alterative doses of mercury, by antim. tartariz. by vinum colchici, and the external application of the solid nitrate of silver directly to the diseased bone or periosteum. This application he regards as only inferior to actual excision of all the diseased mass, an operation not always practicable, and to which few will submit. Cases very satisfactory are detailed.

67. *Artificial Joint.*—In the New York Med. and Phys. Jour. No. 24, Dr J. Kearney Rodgers relates the case of an ununited fracture of the os humeri, of more than two years and a half duration, and in which the seton was twice employed (once for six months), but failed in exciting ossific union. Dr R. resorted to M. White's operation of excision of the ends of the fragments on the 31st of July 1827. *Oct. 8th,* Sixty-nine days after the operation, the fragments had united. *Oct. 16th,* The union was firm. *Dec. 3d,* The patient has regained every motion of the arm; the os humeri is two inches shorter than that of the sound side.

68. *Axillary Aneurism.*—In the *February* number of the London Med. and Phys. Journ. another case of successful application of a ligature to the subclavian artery for axillary aneurism, is recorded. The operation was performed by Mr Bransby Cooper, on Tuesday, Dec. 4th, 1827. The patient did well.

VII. MIDWIFERY.

69. *Gestation.*—Dr Merriman has met with a few cases in which he had reason to believe that the period of delivery, dated from the last appearance of the catamenia, has exceeded forty-four weeks, or 308 days.—*Lond. Med. and Phys. Jan.*

70. *Labour artificially excited.*—Reference to the October (1827) No. of this Journal, p. 431, will give the opinion of M. Kergaradec, as to the propriety of exciting labour under certain circumstances, as stated in a report to the French Academy of Medicine, which report was adopted. The committee maintain, that *there is no case in which an abortion should be excited in a pregnant female.* "The healing art," says the reporter, "should never become a homicidal art." This opinion thus given has great weight; but, as is well known, is contrary to the practice of physicians in this country, in England, in Germany, Holland, &c. in certain extraordinary cases. We have already in this Journal, at p. 408, Vol. 3, and p. 236 of the present volume, recorded successful cases. For the following summary of this practice in Germany and Holland, we are indebted to the Bulletin Univ. for October.

Prof. Vrolik, of Amsterdam, gives the case of a woman aged 43 years, having the sacro-pubic diameter three inches and three lines, and being at the end of the eighth month of her first pregnancy, in whom premature labour was undertaken on the 18th of Feb. 1825. The child was born on the 21st of Feb. Fifty-five hours after the puncture was made the uterine contractions ensued, and in six hours labour was completed. The fœtus was alive after the puncture of the membranes, but was dead born.

Dr Kelseh, of Frankfort on the Oder, details the case of a female aged thirty-two years, becoming pregnant for the third time January 4th, 1826, and who was afterwards attacked with a fungus hematodes of the right mamma. This disease appeared to be aggravated by the uterine irritation, and Dr K. therefore, at the end of the eighth month, the child living and the pelvis natural, proposed a premature labour. This was agreed to, but labour at this time suddenly and spontaneously ensued. It was of no advantage: the patient soon died hectic. Dr K. thinks, even in this case, the operation would have been proper.

Professor **Ritgen** gives a history of the cases of labour artificially excited in the Lying-in Hospital at Giessen. He notices nineteen instances from the year 1818 to 1822, inclusive. Of these twelve were excited before, and seven after the full period of gestation. In six cases of the twelve, the operation was performed during the last ten or fifteen days of pregnancy; in four, in the thirty-eighth week; in one during the thirty-third; and in one in the thirty-first week. The duration of the labours varied from a few hours to several days. The infants of the twelve accouchemens were born alive, with the exception of one child, which was lost by turning. Of the eleven living children, two died, one from weakness, the other from disease of the lungs. Nine left the hospital with their mothers, all in good health. The indications for operating in these cases were the narrowness and irregularity of the pelvis; the sacro-pubic diameter varying from two inches and nine lines, to three inches and six lines.

In the seven accouchemens excited after the full period, (why—is not stated in the Bulletin) the sacro-pubic diameter was generally natural—all the mothers were saved, but one child died apoplectic the fourth day after birth.

The reporter in the Bulletin gives an historical notice of this operation, stating that it was performed by **Macauley** and **Kelly**, in 1756, in England; by professor **Franc. Ant. Mai** of Heidelberg,—the first upon the continent, in 1799. In 1800, the question was discussed in a German journal, entitled Altenburger Medizinische Annalen. In 1818, it was there revived by Drs **Wenzel** and **Froriep**. In 1819, Dr **Harras** published an essay at Berlin: and in 1820, Dr **Ulsamer** presented a dissertation to the public at Wurtzbourg; and relating the case of a child surviving, although born in the twenty-fifth week (sixth month) of pregnancy: in the same year appeared an interesting memoir of professor **Reisinger**, of Landshut. Other essays and monographs have been published by Dr **Preller** in 1822, at Halle, in 1824 by Dr **Kelsch** at Berlin, by professor **Kluge**, and by professor **Siebold** of the same place, in his Journal für Geburtshülfe. Professor **Naegele** of Heidelburg—professor **d'Outrepont** at Wurtzbourg—Dr **Schilling** of Bamberg—professor **Mende** and Dr **Saloman** of Leyden, have all resorted to the operation for exciting labour with a success more or less complete.

From these sources, may be deduced the following *general results*. Of thirty-six cases reported, more than half were first labours; in four cases, the operation was performed, ten or fifteen days before the full period; six occurred in the thirty-eighth week; six in the thirty-seventh; five in the thirty-sixth; three in the thirty-fifth; four in the thirty-fourth; one in the thirty-third; one in the thirty-second; one in the thirty-first; and finally, one in the thirtieth; the details of two others, reported by professor **Naegele**, are not known. The shortest interval between the time of puncturing the membranes and the birth of the child was thirteen hours and a half—the longest, six days. The forceps were applied in six cases, and once the cranium was perforated. Of thirty-four infants, nineteen boys and fifteen girls, six died before birth—nine died a few hours or days after birth (one of these however should be excepted, as it died of variola). Hence twenty infants were preserved out of thirty-four; and including the two of professor **Naegele**, twenty-two out of thirty-six.

This is a more favourable report than that from England by **Sherriman**, who out of thirty-eight cases, preserved but nine children—twenty-one were still-born; the greater part of these presented unfortunately at the superior strait.

The report is also more favourable than that of Professor **Reisinger**, drawn from English and other authors. In 74 cases 30 infants were born dead; of the 44 living children, 3 died soon after birth; 20 certainly lived; of the remaining 21 nothing is positively known, from the incomplete reports given.

Of the 36 cases above alluded to, 34 mothers perfectly recovered, and two died, but not from the operation, for one perished from a dropsy pronounced incurable, and the other from acute pneumonia.

The operation of artificial labour has been opposed by Dr **Piringer** in a dissertation, published at Vienna in 1826, and by professors Jœrg of Leipzig, and Stein of Bonn.

So far from the Bulletin. Professor James has politely furnished us with the following information regarding the experience of English accoucheurs, and has referred us to the first volume of the Eclectic Repertory, p. 105, for the only account, as far as we know, which has been published in this country, of labour artificially induced. We will furnish an abstract of the case.

According to Dr Denman, the first account [in England] of any artificial method of bringing on premature labour was communicated to him by Dr Kelly. In the year 1750 the propriety of the plan appears to have been sanctioned by a consultation of the most eminent practitioners in London.

Dr Denman says, that in more than twenty cases, in which he had either performed it himself, or it had been done by his advice or persuasion, he has not known one untoward or hazardous accident that could be imputed to it, and in the greater number of those cases the children have been born living, while it has been perfectly safe to the person on whom it has been performed.

Dr Merriman states, that out of forty-seven instances of distorted pelves in which the operation had been practised, at least nineteen children had been born alive and capable of living.

In June 1804, Dr James was called in consultation to a lady in labour with her first child. Dangerous symptoms supervening, and the pelvis being preternaturally small, she was delivered by the crotchet. In August 1809, she was a second time delivered by the same means; the patient and her friends had repeated to them an opinion formerly given, that she could not be delivered of a living child at the full period. In 1810 she was again pregnant; premature labour was proposed and agreed to, at the end of the seventh month of utero-gestation. On the 27th of June the membranes ruptured in the evening, and on the 29th, at half past 10, A. M. she was delivered of a living female child. The infant lived to the 19th day, and died, partly from mismanagement in the nursing. The mother happily recovered.

Dr James informs us that "the same individual [Mrs O'Brien] becoming again pregnant, it was determined, in consultation, to bring on premature labour at the expiration of seven months from conception, which took place on the 18th December 1816. She was then delivered of a living male infant without any unpleasant circumstance attending, having been but three or four hours in labour. The child lived about ten days and took the breast, but then died.

"The next time she became pregnant, premature labour was induced at seven and a half months from conception. The child survived and appeared likely to do well, as long as the writer had any knowledge, for a year at least."

71. *Difficult Labour.*—Professor Osiander, of Gottingen, relates a case of labour, in which great delay and difficulty were experienced in delivery from the enormous size of the abdomen of the fœtus; the breech presenting. The child died immediately after birth, and dissection exhibited the kidneys exceedingly enlarged, being of the adult dimensions.—*Archiv. General. Nov.*

72. *Amputation of the Uterus.*—M. Lisfranc has performed two new amputations of the neck of the uterus with success. He announces to the Academy of Medicine, that the female who conceived, fifteen days after a similar operation, and who was safely delivered at the full period of utero-gestation, (Vide Vol. III. p. 402, and Vol. IV. p. 191, of this Journal) is again three months advanced in pregnancy.—*Archiv. General. Nov.*

73. *Spontaneous Evolution of the Fœtus.*—Dr Denman is said to be the first English physician who noticed that in some "cross presentations," in which the side, arm or shoulder presented, a change was gradually effected, so that the arm receded, and the nates were forced down by the powerful contractions of the uterus. In the London Med. and Phys. Jour. for *February*, Mr George Jewel, Esq. denies that such an evolution ever occurs—"that when the arm of the child is protruded into the vagina, it never again recedes to make room for

the nates or any other part." In confirmation of this assertion, he relates two cases of arm presentation, in each of which, without any retraction of the extremity, the body of the child was forced through the pelvis, doubled on itself: the head being subsequently expelled.

We would suggest, that it can hardly be considered a legitimate deduction, that because a child can be born double, therefore an evolution never can occur.

74. *Removal of the Placenta.*—In the London Med. Repos. for *February*, Mr **Edward Thompson** cautions us against acting, in all cases, on the rule, that the placenta may safely be withdrawn, when not only the insertion of the funis but the whole circular edge of the cake can be distinctly felt; for cases have occurred to him, in which part of the placenta under these circumstances remained adherent even to the fundus uteri. Its forcible removal would, in such instances, produce an inversion of the uterus.

VIII. CHEMISTRY AND PHARMACY.

75. *New Method of preparing the Deutoxide of Barium.*—Our readers will recollect, that in our last number, we noticed the coincident observations of Mr **Phillips**, of London, and Mr now Dr **Bridges**, of this city, on the residuum of nitre, after exposure to a red heat; this residuum being evidently the deutoxide of potassium. It appears by the September number of the Journal de Chimie Médicale, that M. **Quesneville, Jun.** has resorted to an analogous process for obtaining deutoxide of barium. This chemist exposes the nitrate of baryta to a red heat in a luted porcelain retort. Upon operating on two pounds of the dried nitrate of baryta, he obtained a pound and a half of deutoxide of barium, containing no trace of the nitrate of the earth. This process for the deutoxide enabling the operator to make it in larger quantities at a time than by the old process, we may expect that oxygenated water, which is formed by means of this substance, will become less expensive, and consequently more extensively used in the arts.

76. *Formation of Adipocere.*—We publish with pleasure the following interesting note respecting the conversion of dead bodies into adipocere, addressed to one of the Editors of this Journal, by Dr **Richard Harlan**, of this city, a gentleman advantageously known to the scientific public, for his researches relating to human and comparative anatomy.

"The following fact, though an isolated one, may not be unimportant to those who are interested in animal chemistry.

"During the summer of 1824, whilst superintending some anatomical preparations at my dissecting rooms in Hartung's alley, I had occasion to macerate a cranium. For this purpose I directed the head of a large fat negro, who had died of acute fever, to be placed in a barrel half filled with water, and closely covered over. On examining the process about six weeks afterwards, with the expectation of finding the maceration completed, I was somewhat surprised to observe the head floating buoyantly on the surface of the water, lying on one side. The air of putrefaction, disengaged within the cranium, most probably raised it to the surface. The upper surface, or that which floated above the water, presented a tumid appearance, and on cutting into it, the whole substance down to the bone was completely converted into adipocere. That portion of the head and face, on the contrary, immersed in the water, was found putrid and macerated.

"Those bodies in which this change has occurred in the cemeteries of this city, such at least as have come under my observation, have been interred in a soil of clay, with a layer of gravel or sand superimposed, the water percolating down to the clay, which confines it in the vicinity of the body, which rests on the water.

"It would appear that bodies, once converted into the matter of adipocere, resist decomposition for a long period. The body of a female, lately disinterred by the relatives, from a burial place in this city, six years after death, had undergone a complete change into a substance of this nature, and was so solid and heavy, as to require the united efforts of several men to raise it from the grave. The eyes were sunk, and the lids of a white waxy appearance, but nothing like actual decomposition had taken place. Such other portions of the body as were accidentally exposed to view, were of the colour of tallow, or dirty wax."

77. *Human Bezoar.*—M. Caventou has reported to the French Academy of Medicine, the result of his examination of a concretion of this nature. It weighed one hundred and eighty-six grains, and measured two and a half inches in circumference. Its colour was bluish-gray, interspersed with white spots, and its shape spheroidal. It had no smell exteriorly, but interiorly it had the smell of the yolk of an egg which had been slightly roasted. Its fracture exposed a surface, having the appearance of needle-formed rays (flattened, and of a pale yellow colour), which extended from the centre to within one-fourth of the cir- ference, and which were surrounded by thin layers, having the same ap- ance as the central portion, but of a deep green colour. It melted like a body, but at a temperature much higher than that necessary to fuse other ars. Upon analysis, it was found to consist entirely of cholesterin. M. entou considers it probable, that it was formed on a small biliary calculus nucleus, around which were gradually deposited successive layers of green us matter. It was voided by a female aged 56 years, during a fourth attack iac passion. Its expulsion took place during the occurrence of diarrhœa, was followed by the complete recovery of the patient.—*Annales de la Mé- ine Physiologique, Fevrier* 1827.

78. *Chemical Nature of the Matter of Melanosis.*—In Vol. III. page 412, of this Journal, we gave an abstract of the experiments of Dr Henry on this matter, which led him to consider it as a morbid secretion, analogous, in some of its properties, to the colouring matter of blood.

It would seem, however, that the matter of melanosis was examined chemically in 1819 by Messrs Barruel and Lassaigne, independently of each other, who agreed in considering it a peculiar morbid secretion, containing all the ingredients of the crassamentum of blood; namely, fibrin, a little albumen, colouring matter, identical with that of the blood, and in short, the alkaline salts, and oxide of iron, which form the fixed parts of this animal liquid. In no case, does this matter exhibit traces of organization.

In the June number of the Journal de Chimie Médicale of last year, two accounts are given of morbid productions of the nature of melanosis. One relates to a blackish matter, obtained from the right ovary of a woman, who died of cancer of the left ovary, and is given by M. Laugier; the other, to a melanic production formed in the venous blood of the horse, and is furnished by M. Lassaigne. The chemical examinations made by these gentlemen on the morbid products mentioned, proved them to be identical with melanosis matter, as found in other parts of the system.

In 1826, M. Lassaigne published an analysis of a black liquid, vomited by a female suffering under a cancerous affection of the stomach. This liquid proved to be identical, in chemical composition, with the matter of melanosis. In the July number of the Journal above cited, there is given an analysis of a black liquid, vomited in a case of diseased stomach, performed by M. Collard de Martigny. This analysis coincides, in most particulars, with that of M. Lassaigne.

It would appear, therefore, that as far as observations have gone, black degenerations, whether solid or liquid, are analogous in chemical composition; consisting of the ingredients, somwhat altered, of the crassamentum of the blood.

It is not improbable, that the black vomit analyzed by Lassaigne was identical with that which is ejected in yellow fever. If it should prove to be so, the conjectures of two of our distinguished physicians, will not appear wide from the truth. The late Dr Rush was accustomed to consider the yellow fever black vomit as an altered *secretion*, while Dr Physick is of opinion that it is effused *blood*. Now M. Lassaigne considers the different kinds of melanosis to be a morbid *secretion*, containing the constituents of the crassamentum of the *blood*.

79. *Calculus containing Mercury.*—In the Journal de Chimie Médicale for May last, we find an account of a calculus, extracted from a tumour, situated in the right hypochondrium of a woman, and which followed a course of remedies for the cure of the venereal disease. Seven-eighths of its weight consisted of cholesterin. But what is very remarkable, it contained mercury, globules of which were readily detected when the central portion was broken, and exposed to a heat of about 68° Fahr. M. Lacarterie, one of the professors of the hospital of Lille, is the author of the above observation.

80. *Denarcotized Laudanum.*—In 1803, Derosne discovered a crystalline substance in opium, to which he gave the name of salt of opium. In 1817, Sertuerner, of Eimbeck in Hanover, made known the existence of a narcotic alkaline principle in opium, to which he assigned the name of morphia. He ascertained that it was naturally combined in the opium with a peculiar acid, for which he proposed the name of meconic acid. Sertuerner was led to suppose that the salt of Derosne was in fact his meconate of morphia; but Robiquet has shown, that this is a mistake, and that the salt of Derosne is a peculiar and distinct principle, to which he has given the name of narcotin, and which may be obtained, nearly pure, by acting on opium by ether.

Considerable difference of opinion exists between Messrs Orfila and Magendie, the principal physiologists who have experimented on narcotin, as to its action on the animal economy. Magendie considers it as the exciting principle of opium; while Orfila asserts that it produces nausea, vomiting, debility, and an accelerated circulation, without the affection of the senses, palsy of the extremities and convulsions, which arise from an overdose of morphia.

It would seem at least, that these physiologists agree in ascribing to narcotin very unpleasant effects, which are totally distinct from the anodyne impression. In consequence of the views entertained by Magendie, Robiquet undertook to prepare an extract of opium, freed from narcotin, the formula for which is given in Magendie's formulary, under the name of *extractum opii, narcotinâ privatum*; and the result of its exhibition corresponded with the previous views of this physiologist, who employed it in practice with advantage.

With the view of attaining the same end, of excluding the narcotin, Dr Hare, in the May number of the Philadelphia Journal of the Med. Sciences, has proposed a preparation under the name of denarcotized laudanum, which he prepares in the following manner:

Shave some opium by rubbing it on the face of a jack-plane. Subject it, four times successively, to as much ether of the specific gravity of .735, and kept nearly at the boiling point, as shall be sufficient to cover it, allowing each portion to act for twenty-four hours. By this treatment, the opium is deprived of its narcotin, it being dissolved by the ether. Next, subject the denarcotized opium to as much duly diluted alcohol as would have been sufficient to convert it into laudanum, had it not been subjected to the ether.

Dr Hare subjoins a letter from Dr Dewees, by which it appears, that the denarcotized laudanum possesses advantages over the common laudanum, thereby confirming the views of Magendie as to the importance of excluding the narcotin.

Denarcotized opium is prepared in quantities by Mr J. P. Wetherill, a scientific manufacturing chemist of this city; and may be obtained at the store of Mr S. P. Griffitts.

81. ***New Formula for obtaining Morphia.*—The following modified formula**

for the expeditious preparation of morphia, with the accompanying remarks, has been kindly communicated to us by Dr Edward Staples of this city.

"Every formula for the preparation of morphia results in the precipitation of that substance, in the first instance, intimately blended with a large portion of colouring matter, from which it is difficult to separate it in a state of purity. In that of M. Robiquet, which is most generally followed, the water directed is inadequate to dissolve all the meconate of morphia present in the opium, while the proportion of magnesia to be employed to precipitate the morphia, is variously stated from a few grains to as many drachms. The annexed formula is a modification of that in which the acetic solvent and ammoniacal precipitant are employed. It causes a gradual precipitation of the morphia in a crystalline form, which requires only to be washed in a small portion of cold diluted alcohol, and then to be dissolved in boiling alcohol, to obtain it pure.

"*Formula.*—Subject four parts by weight of opium in coarse powder to the action of three parts of acetic acid, diluted with three parts of water, for twenty-four hours, at a temperature of about 70° Fahr. Add eight parts of alcohol of 35 Beaumé (sp. gr. .842), and continue the digestion for twenty-four hours longer, raising the temperature by means of a water-bath to 160°. Next decant the liquor while hot from the opium, and submit the undissolved portion to the same treatment as first directed. Mix the highly coloured acidulous tinctures together and filter, and then add alcoholic ammonia of such a strength as to cause no change in the transparency of the tincture at the moment of addition*. After the lapse of a short time, crystals of morphia will begin to fall, which must be washed in a small portion of cold diluted alcohol, and dissolved in boiling alcohol, as already mentioned, to render them quite pure. On account of the lightness of the alcoholic ammonia, it is best to add it by means of a glass tube, extending to the bottom of the vessel."

Dr Staples has stated to us that the crystalline precipitate of morphia, caused in his process by the alcoholic ammonia, is much freer from colouring matter than that obtained by means of ammonia used in the ordinary way. From all the facts, it would seem that the advantage of Dr Staples's process is, that the alcohol, associated with the ammonia, while it does not prevent the latter from slowly precipitating the morphia, is the means of holding in solution a considerable portion of the colouring matter, which would otherwise fall and greatly contaminate the product.

Dr Staples states that, by the above process, he has obtained ninety grains of morphia from a quarter of a pound of opium of medium quality. We would recommend to country practitioners to give their attention to Dr Staples's process, as we have reason to believe that it furnishes an easy and expeditious method for obtaining this important vegetable alkaline principle.

82. *Chemical Facts respecting Cinchona.*—M. Guibourt states, that a cold infusion of good cinchona bark is precipitated abundantly by sulphate of soda. When, however, the attempt is made to filter, the precipitate is wholly redissolved. M. Guibourt supposes, that there are formed the sulphates of quinia, and of lime, by double decomposition between the sulphate of soda and the kinates of quinia and lime. If ammonia be added to the liquor, a precipitate is formed. M. Pelletier remarks, that watery extracts of cinchona afford but little quinia when treated with magnesia, and that the residual bark, from which such extracts have been made, still contains a good deal of this alkaline principle. The extracts, however, contain more quinia and cinchonia than can be obtained from them; as the other elements of the bark so envelop these alkaline principles, as to make it difficult to separate them completely.—*Archives Générales de Médecine, March* 1827.

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* "Three parts of alcohol to one of strong water of ammonia are about the proportions to be used."

83. *Proportion of Sulphate of Quinia furnished by different samples of Bark.*—Messrs **Pelletier** and **Caventou**, the discoverers of quinia and cinchonia, made some remarks to the French Institute, on the proportion of sulphate of quinia obtained from Peruvian bark. The different barks are by no means equally rich in quinia. Some Calisaya barks yielded to these chemists sulphate of quinia in the proportion of two hundred and two grains to the pound avoirdupois, which contains seven thousand grains. Other samples, of inferior quality, furnished only one hundred and nine grains of the sulphate to the pound. The mean product of a pound of bark was one hundred and sixty-four grains. In all cases, the sulphate of quinia obtained was identical.

The above results give the following proportions per cent., viz.

Good Calisaya bark yielded two and nine-tenths per cent. of sulphate of quinia.

Inferior kinds gave one and a half per cent.

The average product was two and one-third per cent.

In the above abstract, we have converted the French into English weights, as being more familiar to our readers.

84. *Oxalate of Potassa-and-Antimony.*—In the Journal de Chimie Médicale for June last, it is stated that M. **Lassaigne** has formed a double oxalate of potassa-and-antimony, by boiling in water a mixture of equal parts of quadroxalate of potassa, and finely levigated glass of antimony. The new salt crystallizes in needles, arranged in a stellated form. It is more soluble in cold water, but less active than tartar emetic.

85. *Method of preventing the Precipitation of Iron from Chalybeate Waters.*—In the Journal de Chimie Médicale for Jan. 1827, there is a note on this subject, taken from **Hufeland**'s Journal of Practical Medicine. The plan consists in fixing in the cork of the bottle containing the water, an iron nail, or wire, sufficiently long to dip a little way into it. By this simple contrivance, chalybeate waters may be transported to any distance in bottles, without the least precipitation of the iron.

86. *Mode of distinguishing Arrow-root from Wheat or Potato Starch.*—Mr **Virey** states, that ten grains of wheat or potato starch will form a pretty thick jelly with two ounces of boiling water; while the same proportion of arrow-root forms a thin liquid.

MISCELLANEOUS.

The New England Journal of Medicine and Surgery, after a useful existence of seventeen years, has been discontinued; its property and its influence have been associated with the Boston Medical Intelligencer—and a new work, commenced by the joint patrons and proprietors, has appeared under the title of the *Boston Medical and Surgical Journal*. This is issued in weekly sheets, and from the specimens already afforded, promises to be a valuable periodical publication.

The Philadelphia Monthly Journal of Medicine and Surgery, edited by NATHAN R. SMITH, M.D. late Professor in the Jefferson Medical College, now Professor in the University of Maryland, has been merged in the American Journal of Medical Sciences, issued by Carey, Lea & Carey.

The State Medical Society of New York have proposed, as a Prize Question for the year 1829, *The history, causes, and treatment of Typhus Fever*. The premium is *one hundred dollars*. The dissertations must be forwarded to Albany, on or before the 1st of December, (1828), and be accompanied with a sealed paper, containing the name of the author; which paper, as well as the dissertation, shall be endorsed with the same motto.

Dr GEORGE HOLCOMBE, Member of Congress from New Jersey, died at Allentown, on the 14th of January. Dr H. was one of those bright ornaments of our profession, who unite general erudition and science to medical talents and attainments. He was alike distinguished as a statesman and a physician.

Turkey.—Perhaps it is not generally known, that some attention has been paid to the science of medicine in Turkey. A regular Medical School and Military Hospitals are there established. One of these is connected with the medical school, and is well arranged. The hospital and the school are comprised under the name of *Tibchana*. The students are generally the children of those who have been useful to the state; they have a peculiar uniform, are boarded, receive a pension of twenty piastres a month, and are gratuitously instructed in the sciences requisite for the practice of medicine. They are taught, in addition to their vernacular tongue, the French, Italian, Arabic and Persian languages. At the head of the institution is the *hekim bachi*, or first physician of the emperor. CHANI-ZADEH, a member of the society of *Oulema*, has published, in the Turkish language, a treatise on Anatomy, accompanied with plates.—*Bulletin Univer. for October.*

Dr STEVENSON'S neat translation of Orfila on Poisons and Asphyxia, did not reach us in time for the insertion, in the present number, of a notice which is already prepared.

An Encyclopedic Dictionary of Medical Science is announced in the German

Journals, to be written by Professors HUFELAND, GRAEFE, GIEBOLD, and RUDOLPHI of Berlin. The work will consist of from twenty-five to thirty volumes, in large octavo. The first volume is already published. Two are to appear annually. The price per volume is three and a half rix dollars; for a copy on letter paper, four do.; on fine vellum, five do.

A Compendium of Anatomy, containing a concise and accurate description of the different parts of the human body, for the use of students, is now preparing, and will be published during the season. It will be in a portable form, and contain the latest discoveries, so as to serve as a pocket companion or vade mecum to the student of anatomy.

COLUMBIAN COLLEGE, *District of Columbia.*

We are happy to learn that this infant Institution is in a thriving condition. The third course of lectures, which has lately terminated, has been delivered to a class of between thirty and forty students; twelve of whom have since received the degree of Doctor in Medicine. A new college edifice has been erected, containing three good lecture rooms, large enough for one hundred and thirty or one hundred and forty students, a laboratory, and convenient dissecting rooms. A medical library is forming, so that every facility will be afforded to the medical student.

The third annual commencement of the Medical Department of the Columbian College was held in Washington city, March 12, 1828.

The following is a list of the graduates with the subjects of their theses:

Joseph S. Baker, of Georgia, on Inflammation.

Joseph Borrows, Jun. of the District of Columbia, on the Pathology of the Mucous Membrane.

John A. Bulfinch, of Massachusetts, on Tetanus.

Silas L. Condict, of New Jersey, on Digestion.

Robert A. Cony, of Maine, on the Stimulus of Distention.

John F. Edmonds, of Virginia, on Morbid Sensibility of the Seminal Organs.

Alexander M'D. Davis, of the District of Columbia, on Chorea St. Viti.

Charles W. Davis, of the District of Columbia, on Puerperal Fever.

Charles M'Lean, of the District of Columbia, on Humoral Pathology.

Harvey Lindsley, of New Jersey, on Scrofula.

William N. Waters, of the District of Columbia, on the use of Ol. Terebinthinæ.

Noble Young, of the District of Columbia, on March Miasmata as producing Fever.

PHILADELPHIA MEDICAL SOCIETY.

Officers for 1828.

President.—PHILIP SYNG PHYSICK, M.D.
Vice Presidents.—JOSEPH PARRISH, M.D. SAMUEL JACKSON, M.D.
Corresponding Secretaries.—JOHN BELL, M.D. B. H. COATES, M.D.
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Library Committee.—H. L. HODGE, M.D. R. HUSTON, M.D. C. D. MEIGS, M.D.

The following lectures have been read before the Society during the summer and winter sessions:—

Dr Jackson. On Debility.
Dr Condie. On Acute Rheumatism.
Dr Meigs. On some diseases of the Spinal Marrow.
Dr B. H. Coates. On the Pathology of some Diseases of the Brain.
Dr Edward Jenner Coxe. On Acupuncturation.
Dr Horner. On the Gastro-Intestinal Mucous Membrane.
Dr Harris. On Drowning.
Dr Condie. On Hæmoptysis.
Dr Bell. On Gaseous Poisons.
Dr Brewster. On the Morbid Affection from Drinking Cold Water.
Dr Hodge. On Irritation.
Dr B. H. Coates. On the Relations of Physiology.
Dr D. Theodore Coxe. On Baths.
Dr Horner. On Inflammation.
Dr Emerson. On the New Doctrines of Syphilis.
Dr Hays. On the Pathology of the Tissues.
Dr Sharpless. On the use of Heat and Cold.
Dr Bond. On Respiration.
Dr Harris. On Poisoned Wounds.
Dr Hopkinson. On the Morbid Sympathies of the Brain and Stomach.
Dr Parrish. On the Evidences derived from Surgery in proof of a Vis Medicatrix Naturæ.
Dr E. Jenner Coxe. On Cynanche Trachealis.
Dr Rousseau. On the Importance of Exercise.

The following gentlemen have been elected members during the above period.

Honorary Member.

Dr Joseph Clark, Dublin, Ireland.

Junior Members.

Pennsylvania.—William Colquhoun; William W. Gerhard; John Van Buskirk; John B. Dick; Joseph Togno; Henry D. Dietrick; Daniel J. Brunner; Richard J. K. Sims; Adam R. Stouch; Gideon G. Palmer; Joseph Hickman; Jeremiah F. X. M'Credy; Henry Lippincott; George J. Janeway; George Huhn; Charles H. Bessonetts; Samuel G. Hobson; Edward Hallowell; William Keith; Joseph Carson; Hiram Corson; John H. Fager; Robert Rogers; William Whelan; Henry Gibbes; Edward Jenner Coxe, M.D.; James Ross Smith, M.D.; William C. Bann, M.D.

Delaware.—Lewis Summerl, M.D.; Thomas J. Dale.

New Jersey.—James S. Carpenter; Joseph Warrington.

Rhode Island.—Samuel B. Tobey.

New York.—Charles G. Fowler; Brian Burwell, M.D.; G. S. Fowler.

Virginia.—James H. Gregory; H. Montgomery; Matthew Jefferson; Francis R. Gregory; L. G. Wynn; Walton R. Juckett; Robert M. Dunbar; William R. Smith; Robert Carter Randolph; Thomas M. Boyle; Richard B. Alexander; John N. Sebrell; James R. Coleman; Watson Carr; G. S. Garth; William T. Maclin; James T. Barclay.

Maryland.—Charles W. Johnson; Burton Randall; John W. Anderson.

District Columbia.—James Jones.

North Carolina.—James J. Vernon; Reading S. Long; Larkins G. Jones; Jesse Carter; Michael O'Reilly.

South Carolina.—John M. Raiford; Evans Amacker; R. W. Gibbes; Martin Phillips; Arthur Gibbes; Joachim R. Saussy, M.D.

Georgia.—John A. Urquhart; Paul Eve; Leester Humphreys; Edward R. Ware.

Ohio.—Leonard Hanna.

Tennessee.—Robert N. Strong.

Quebec, Canada.—William Blumhart; René Bedard.

West Indies, Jamaica.—George Gray.

West Indies, St Croix.—Joseph Robinson.
Nova Scotia, Halifax.—Edward Brown.

Extracted from the Minutes of the Society.
JOHN R. W. DUNBAR,
Recording Secretary.

UNIVERSITY OF PENNSYLVANIA.

At a Public Commencement, held on the 27th of March 1828, the Degree of Doctor of Medicine was conferred upon *one hundred and thirty-three* gentlemen. We annex their names and the titles of their Theses, as announced by Dr Horner, Dean of the Medical Faculty.

Alabama.—John A. Cowles, External Applications.

Canada.—William Blumhart, Revulsion. *Joseph Haller*, Charbon provenant de la Contagion.

North Carolina.—George S. Bettner, Ulceration of the Intestines. *Edwin E. Slade*, Trachitis. *Armand J. De Rosset*, Cynanche Trachealis. *Harwood P. Perry*, Acute Rheumatism. *Henry M. Jeter*, Mercurial Disease. *William G. Hill*, Erysipelas Facialis. *Nathaniel M. Comer*, Bilious Continued Fever. *John L. Wright*, Cholera. *Reading S. Long*, Acute Peritonitis.

South Carolina.—John A. Wragg, Indigestion. *Lynch H. Deas*, Strictures of the Urethra. *Francis Johnson*, Vermes Intestinorum. *John M. Raiford*, Acute Rheumatism. *James T. Leckie*, On the Process employed by Nature in suppressing Hæmorrhage. *Evans L. Amacker*, Cynanche Trachealis. *James Jordan Vernon*, Pathology of Hæmorrhage.

District of Columbia.—James Jones, Diabetes. *Charles G. English*, Cathartics.

Delaware.—Alexander W. Reynolds, Cholera Morbus. *Phocion P. Lewis*, Hydrothorax.

Georgia.—John A. Urquhart, Dentition and Cholera Infantum. *W. Woodson Waddel*, State of the Biliary Secretion in Fever. *Edward R. Ware*, The Effect of the Eighth Pair of Nerves on Respiration and Digestion. *Thomas J. Charlton*, Melancholia and Hypochondriasis. *James B. Walker*, Topography, Climate, and Diseases of Burk county, Georgia. *Paul F. Eve*, Uterine Hæmorrhage. *Reuben Y. Reynolds*, Inversio Uteri. *Stephen Bailey*, Mercury.

West Indies.—Jos. H. Robinson, Cornus Circinata.

New-Jersey.—Hudson S. Burr, Scarlatina. *Joseph Pancoast*, Erectile Tissue. *Robert A. Hunt*, Ascites. *John B. Tuft*, Delirium Tremens. *Lewis B. Hunter*, De Hydrope. *Francis A. Ewing*, Disguised Intermittent. *Benjamin W. Blackwood*, Derangements of Digestive Organs. *Maurice Beesley*, Euphorbia Ipecacuanha. *William J. Johnson*, Lithotomy. *William M. Fenimore*, Pertussis. *John H. Stokes*, Erysipelatous Inflammation. *Joseph Warrington*, Diseases in the western part of Burlington county. *Charles Ellis*, Bubonocele.

Kentucky.—John Wilson Hunt, Hæmorrhoids.

Maryland.—Charles W. Johnson, Aneurism from Anastomosis. *John L. Dorsey*, Pneumonia Biliosa. *Thomas S. Herbert*, Lithotomy. *Burton Randall*, On the Identity of Electricity and the Nervous Influence. *John W. Anderson*, Rubeola, or Measles.

Massachusetts.—Edward Staples, Opium.

Pennsylvania.—Horatio N. Glentworth, Digitalis Purpurea. *Jesse K. Bonsall*, Phlegmasia Dolens. *Aristide Rodrigue*, Experiments on the use of the Ligature and Cupping Glasses in Poisoned Wounds. *Robert Bridges*, Neuralgia. *Anthony C. Percival*, Aneurism. *Samuel Stones, Jr.*, Nature and Properties of the Blood. *Charles Fox, Jr.*, Colic. *Charles Willing*, On the Primary Seat of Disease in Fever. *Andrew E. Kennedy*, Rheumatism. *William Whelan, Jr.*, Moxa. *William S. Zantsinger*, Erysipelas. *George Spackman*, Hydrothorax. *Uselmo A. Clark*, Cynanche Trachealis. *Robert Rogers*, Hæmorrhoidal Diseases. *Henry Umstad*, Acute Hepatitis. *Joshua Rhoads*, On the Circulation of the Blood. *Hiram Corson*, Tetanus. *Charles H. Bessonett*, Pertussis. *George Clymer, Jr.*, On Causes of Epidemic Diseases. *Jacob P. Thornton*, Cholera Infantum. *Charles Evans*, Rheumatism. *John B. Dick*, Hirudo Medicinalis. *Edward Chandlee*, Hemoptysis. *Adam R. Slouch*, Inversio Uteri. *John W. Reese*, Amenorrhœa. *Israel T. Smith*, Hepatitis. *Casper Wistar Pennock*, Experimental Researches on the Efficacy and Modus Operandi of Cupping Glasses in Poisoned Wounds. *John G. Peters*, Amenorrhœa. *Benjamin C. Tomlinson*, Case of Luxated Hip Joint. *William B. Watson*, Puerperal Fever. *Henry L. Aitkin*, Jaundice. *Jeremiah F. X. M'Credy*, Miasmata. *George Kuhn*, Dysentery. *William L. Vanhorn*, Dysentery. *Jacob Wagenseller*, Epidemic of Bucks county. *Solomon Temple*, Hydrorachitis. *William M. Fahnestock*, Myrica. *Gideon G. Palmer*, Hæmorrhoids. *Enoch P. Hoopes*, Hepatitis Acuta. *Robert Morton*, Colica Pictonum. *Charles Pearson*, Gonorrhœa. *Alexander H. Barnitz*, Acute Rheumatism. *Nathaniel B. Goodman*, Functions of the Lungs. *Henry C. Pratt*, Amputation.

Rhode Island.—Samuel B. Tobey, Opium and its Officinal Preparations.

Tennessee.—Reuben A. Gentry, Fractures, Dislocations, and Gun Shot Wounds. *Robert N. Strong*, Extirpation of the Parotid Gland.

Virginia.—James H. Gregory, Bilious Fever. *Francis R. Gregory*, Strictures of the Urethra. *Andrew Barclay*, Empyema. *Jos. G. Gray*, Digestive Mucous Membrane. *Henry Myers*, Paralysis. *Frederick Horner*, Altered condition of the Tongue in Disease. *Samuel P. Byrd*, Hepatitis. *James T. Barclay*, Saccharine Matter. *Littleberry G. Wynn*, Smyrnium Trifoliatum. *John R. W. Dunbar*, On the Structure, Functions and Diseases of the Nervous System. *George Stubblefield*, Fractures of the Extremities. *William Collins*, Mania a Potu. *Frederick W. Harrison*, Amenorrhœa. *Peyton R. Berkeley*, Injuries of the Head. *George W. Tinsley*, Deranged Menstruation. *James T. Boyd*, Cynanche Trachealis. *William W. Carrington*, Hydrophobia. *Richard B. Alexander*, On Juniperus Sabina and Juniperus Virginiana. *James B. Maclin*, On the Resemblance and Means of distinguishing Chronic Hepatitis and Tubercular Consumption. *Robert Braden*, Remittent Fever. *Thomas E. Spencer*, Gonorrhœa. *Joel B. Sturdivant*, Acute Hepatitis. *Theophilus Meade*, Mercurial Salivation. *Hughart Montgomery*, Wounds of the Articulations. *Augustus G. D. Roy*, Hepatitis. *Thomas W. Bass*, Icterus or Jaundice. *William T. Maclin*, Use of Iodine in Bronchocele. *Thomas Parham*, Cholera Infantum. *William Finney, Jr.*, On the Process adopted by Nature, in the Restoration of Wounds, and other Injuries of the Human System. *John Batte*, Intermittent Fever. *Henry Lee Heiskell*, Extra Uterine Pregnancy. *James C. Hazlewood*, Acute Gastritis.

New-York.—William N. Duane, Purulent Ophthalmia. *Charles G. Fowler*, Tubercular Phthisis.

PHILADELPHIA MEDICAL INSTITUTE.

The summer course of Lectures in the Institute will commence on the second Monday in April, and terminate during the last week in October.

Dr N. CHAPMAN, on the Practice of Medicine.
Dr W. E. HORNER, on Anatomy.
Dr W. P. DEWEES, on Midwifery.
Dr SAMUEL JACKSON, on Materia Medica.
Dr J. BELL, on the Institutes of Medicine, and on Medical Jurisprudence.
Dr J. K. MITCHELL, on Medical Chemistry.
Dr H. L. HODGE, on the Principles of Surgery.
Dr THOMAS HARRIS, on Operative Surgery.

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